







14 1/2 Colour plates











# GENERAL OBSERVATIONS

ON THE

Advantage which may result from the Introduction of the SEEDS of our best GRASSES.

THAT much of our meadow and pasture land may be rendered infinitely more valuable than it is at present, by the introduction of some of our best grasses, is an opinion which has long prevailed among many of the more enlightened agriculturists of the present age. And while some of these have endeavoured to excite the husbandman to collect and cultivate seeds of this sort, by writings fraught with the soundest reasoning<sup>a</sup>; others have attempted to attract him by the offers of well-directed premiums<sup>b</sup>. But, hitherto, neither the writings of the one, however convincing, nor the premiums of the other, however alluring, have been productive of the desired effect: Ray-Grass still continues to be the only grass whose seeds can be purchased for the purpose of laying down meadow and pasture land; and how inadequate that grass is for such a purpose, is known to every intelligent farmer. Why indeed the *Lolium perenne*<sup>c</sup> should originally have been made use of, in preference to all the other grasses, cannot, perhaps, be satisfactorily accounted for; most probably it owes its introduction to accident, or to its being a common grass whose seeds were easily collected, rather than to its being preferred from an investigation of its merits compared with the others; however this may be, there appears to be no reason for excluding the others, for it would appear exceedingly improbable that of upwards of a hundred grasses<sup>d</sup> growing wild in this country, the Author of Nature should have created one only as suitable to be cultivated for pasturage or fodder.

Taking it for granted then, that there are other grasses, superior in many respects to the Rye-Grass, this question naturally arises:—How comes it that they have not found their way into general use? To this it may be answered; improvements in any science, but more especially agriculture, are slow in their advances; and, perhaps, no class of men adheres more pertinaciously to old practices than the farmer.

The difficulty of distinguishing the grasses one from another, has no doubt proved one grand obstacle; many of these plants are so much alike, that the most discerning botanist is often at a loss to know some of them apart; if so, how easily may the husbandman be deterred from the arduous task.

There is another cause which may have operated against their introduction: grasses, as well as other plants, have been frequently recommended, from a partial and limited observation of them, by persons who neither knew them well as botanists or agriculturists, or who have recommended them, merely to gain by the credulity of the public.

But, perhaps, the chief reason has been, that persons who might be expected to make the improvements, have not had the means fairly put into their hands of making the experiment. Whether the method we have adopted on this occasion, may be more successful than those of our predecessors, must be determined by the event. From the numerous applications made to me, by a variety of gentlemen, for grass seeds, it has appeared incumbent on me to do something which might gratify them, and render the public an essential service; I wish, at least, to put it into their power to decide on a matter which has been long agitated, and from which I am far from being the only one that entertains the most sanguine hopes of its proving a great national advantage.

The grasses recommended will I am certain, do all that our natural grasses can do: they are six of those which constitute the bulk of our best pastures; most of them are early, all of them are productive, and they are adapted to such soils and situations as are proper for meadows and pastures.

But let no one expect them to perform wonders; for, after all, they are but grasses, and, as such, are liable to produce great or small crops, according to particular seasons, or to the fertility or barrenness of the soil on which they are sown.

## OBSERVATIONS on the GRASSES recommended and contained in the PACKET.

### I. ANTHOXANTHUM ODORATUM. Sweet-Scented Vernal-Grass. Fig. 1.

NEXT to the *Cynofurus Cæruleus*, or *Blue Dogs-Tail Grass*, this, of all our English grasses, comes first into blossom; it is therefore valuable as an early grass; it is valuable also for its readiness to grow in all kinds of soil and situation, being found in bogs, in woods (especially such as are of low growth, or have had the underwood cut down) in rich meadows, and in dry pastures; in point of crop, it is not so productive as some, yet more so than others; cattle appear to be fond of it, and it is well known to be the only English grass which is odoriferous; the agreeable scent of new-made hay arises entirely from this grass, hence its name of *odoratum*, or sweet-scented; the green leaves, when bruised, readily impart this perfume to the fingers, by which means the foliage may at all times be known; and persons not deeply skilled in Botany, may distinguish it when in blossom, by its having only two threads or stamina to each flower.

Of the several grasses here recommended, it is the least productive in point of feed.

<sup>a</sup> "It is wonderful to see how long mankind has neglected to make a proper advantage of plants of such importance, and which, in almost every country, are the chief food of cattle. The farmer, for want of distinguishing and selecting grasses for seed, fills his pastures either with weeds, or bad or improper grasses; when, by making a right choice, after some trials, he might be sure of the best grass, and in the greatest abundance that his land admits of. At present, if a farmer wants to lay down his land to grass, what does he do? He either takes his seeds indiscriminately from his own foul hay-rick, or sends to his next neighbour for a supply. By this means, besides a certain mixture of all sorts of rubbish, which must necessarily happen: if he chances to have a large proportion of good seeds, it is not unlikely but that, what he intends for dry land may come from moist, where it grew naturally, and the contrary. This is such a slovenly method of proceeding, as one would think could not possibly prevail universally; yet this is the case as to all grasses, except the Ray-Grass, and what is known in some few counties by the name of the Suffolk-Grass (*Poa annua*); and this latter instance is owing, I believe, more to the soil, than any care of the husbandman. Now, would the farmer be at the pains of separating, once in his life, half a pint or a pint of the different kinds of grass seeds, and take care to sow them separately; in a very little time, he would have wherewithal to stock his farm properly according to the nature of each soil; and might, at the same time, spread these seeds separately over the nation, by supplying the seed-shops. The number of grasses fit for the farmer is, I believe, small; perhaps, half a dozen, or half a score, are all he need to cultivate; and how small the trouble would be of such a task, and how great the benefit, must be obvious to every one at first sight. Would not any one be looked on as wild, who should sow wheat, barley, oats, rye, pease, beans, vetches, buck-wheat, turnips, and weeds of all sorts, together? Yet, how is it much less absurd, to do what is equivalent, in relation to grasses." *Stillingfleet's Misc. Tracts*, Edit. 2. p. 365.

<sup>b</sup> Meadow and pasture land is oftener neglected than ploughed ground, notwithstanding it generally admits of a much greater proportion of improvement. The best grasses cannot be collected at too great an expence; for, I have seen a small spot of land, in the middle of a large piece, which was laid down twelve or fourteen years since, by Mr. Stillingfleet, upon the estate of Mr. Price, of Foxley, in Herefordshire, with some choice seeds, at the same time when the remainder of the field was laid down with common seeds; and this spot is considerably better than the rest. It not only appeared so to my judgment, but was allowed to be so by Mr. Price's bailiff, who was well acquainted with its produce.

<sup>c</sup> From Mr. Stillingfleet's experiments, and my own observations, I am clearly of opinion, that any person who has land calculated for grass, may improve it, by this method of laying it down, to a much greater degree than he can in the usual way." *Kent's Hints to Gentlemen of Landed Property*. See also, *Anderson's Essays on Agriculture and Rural Affairs*, 2 vols. 8vo. in which this subject, among a variety of others, is very copiously and ably handled; and, on the perusal of which, one cannot but seriously lament, that many of the useful hints of the ingenious author, are rendered abortive, from his want of Botanical information.

<sup>d</sup> Society for the Encouragement of Manufactures, Arts, and Commerce.—<sup>e</sup> Ray, or Rye-Grass.—<sup>f</sup> The word grasses is here understood in its strict sense.

### II. ALOPECURUS



II. *ALOPECURUS PRATENSIS. Meadow Fox-Tail Grass. Fig. 2.*

PRODUCES its spike almost, and in some situations to the full, as early as the *Anthoxanthum*; hence it is equally valuable as an early grass; and as it is much larger, and quicker in its growth, it is consequently much more productive: it shoots very rapidly after mowing, producing a very plentiful aftermath; and where land is rich, and two crops are not thought too much for it to bear, of all our English grasses this appears to be the best adapted to such a purpose, and ought to form a principal part of the crop: its foliage may, perhaps, appear coarse to some, but it should be remembered, that no English grass can be productive that is not in some degree coarse; but if mown early, just as it comes into bloom, though the leaves are large the hay will not be coarse; in general, the great advantage arising from the earliness of this and the preceding grass is entirely lost at a distance from London, where hay-making commences late, and where the husbandman seems to wait for a crop of general indiscriminate herbage, rather than of grass.

The *Meadow Fox-Tail* is more confined as to its place of growth, growing naturally in a moist soil only; hence it is best adapted to improve very wet ground that may be drained of its superfluous moisture, or to form or meliorate meadows that have a moist bottom, and are not apt to be burnt up in dry summers.

Its seeds are easily collected, but a great number of them, we believe, at least one-third, are yearly destroyed by a very minute orange-coloured larva or maggot, which feeds on the embryo of the seed, and produces a very small musca or fly, probably the *Musca Frit* of Linnæus.

This grass is distinguished, in some degree, by the largeness of its foliage, and by its producing a soft spike on a long stalk early in May. The *Meadow Cats-Tail Grass* produces a spike somewhat similar, but rougher to the touch, and much later in the summer.

III. *POA PRATENSIS. Smooth-Stalked Meadow-Grass. Fig. 3.*

THE foliage of this grass begins to shoot, and to assume a beautiful verdure very early in the spring, but its flowering stems are not produced so soon, by at least a week, as those of the *Alopecurus*; this trifling difference, however, in point of earliness of flowering, does not prevent it from ranking very properly with the two preceding; and, where early grassy pasturage is a desideratum, we are of opinion it cannot better be obtained than by a combination of these three; if crop be at the same time an object, the *Meadow Fox-Tail Grass* should predominate.

This grass rather affects a dry than a moist situation, and hence it keeps its verdure in long-continued dry weather better than most others, but it will thrive in either; will grow on the top of a dry wall, but grow much more luxuriantly in a rich meadow: it is to be observed, however, that it has a root which creeps like the *Couch-Grass*, and is almost as difficult to extirpate; it ought therefore to be cautiously introduced where the pasturage is not intended to be permanent.

Of the trifling improvements which we flatter ourselves to have occasionally made in some of the specific characters of the English plants, none have given us more satisfaction than those which relate to this species and the *Poa Trivialis*, two grasses so very similar, as scarcely to be distinguished, even by the most discerning eye, at a little distance, and very obscurely characterised by Linnæus, but which, by attending to two characters only in each grass, may now, in a moment, be distinguished by the utmost facility and certainty.

The *Poa Pratensis* has a smooth stalk, the *Trivialis* a rough one, perceptible when drawn betwixt the thumb and finger, and which arises from little sharp points, visible when the sheath of the leaf which covers the stalk is magnified, *vid. fig. 4.* the *Trivialis* has a long pointed membrane at the base of the leaf, *fig. 5.* the *Pratensis* a short blunt one, *fig. 6.* These grasses differ specifically in a variety of other particulars, not necessary here to dwell on; and which such as wish to be more particularly informed of, may consult the *Flora Londinensis*.

IV. *POA TRIVIALIS. Rough-Stalked Meadow-Grass. Fig. 7.*

SIMILAR as this grass and the preceding are in their appearance, particularly in their mode of flowering, they differ very essentially in their qualities. While the *Smooth-Stalked Meadow-Grass* is found chiefly in dry pastures, the *Rough-Stalked* principally occurs in moist meadows, or on the edges of wet ditches; it loves moisture, and a situation that is rather shady; hence, though there are few grasses more productive, or better adapted, for hay or pasturage, it is a tender grass, and liable to be injured by severe cold, or excessive drought: in very wet ground near the Thames, we have observed it grow very tall, while in poor land we have, on the contrary, seen it altogether as diminutive; it is, perhaps, no small recommendation to it that it is a principal grass in that uncommonly productive meadow near Salisbury, mentioned by Stillingfleet, and more particularly described in the *Memoirs of the Bath Agricultural Society, vol. 1. p. 94.*

The account given of the extraordinary fertility of this meadow, excited our curiosity, and induced us to request a gentleman residing near the spot, to favour us with six small turfs, cut up in different parts of the said meadow, and which being planted in our garden, Lambeth-Marsh, produced as follows:

TURF 1.	<i>Poa trivialis,</i> <i>Ranunculus acris,</i> <i>Triticum repens,</i> <i>Agrostis alba.</i>	TURF 4.	<i>Poa trivialis,</i> <i>Triticum repens,</i> <i>Peucedanum Silaus.</i>
TURF 2.	<i>Poa trivialis,</i> <i>Alopecurus pratensis,</i> <i>Triticum repens.</i>	TURF 5.	<i>Poa trivialis,</i> <i>Alopecurus pratensis,</i> <i>Agrostis alba,</i> <i>Avena elatior,</i> <i>Triticum repens.</i>
TURF 3.	<i>Poa trivialis,</i> <i>Agrostis alba.</i>		

This experiment proves, in a great degree at least, what we long before suspected, that the extraordinary fertility of this meadow arose not from any new grass peculiar to it, but from several unusual circumstances concurring, and favouring, in an uncommon degree, the growth of certain well known grasses, especially the *Poa trivialis* and *Agrostis alba*.

We may remark that the seeds of the *Poa Trivialis* and *Poa Pratensis*, but more especially those of the former, are apt to be entangled and adhere to each other, as if cobwebs had been intermixed with them.

V. *FESTUCA PRATENSIS. Meadow Fescue-Grass. Fig. 8.*

OF the several grasses here recommended, this comes the nearest in its appearance to the *Ray-Grass*, to which, however, it seems to us, in many respects, to be greatly superior, at least, for the purpose of forming or improving meadows; it is larger, and more productive of foliage; it is strictly perennial, it is very hardy, and will thrive not only in very wet, but also in dry ground: we have found it growing in all situations, from the sand-pits at Charlton to the oser-grounds at Battersea; and it abounds in the very best meadows about London; in short, we know of no grass more likely to supply the deficiencies complained of in *Ray-Grass*; and yet it has not, that we know of, been particularly recommended. One quality it has, which bids fair to introduce it quickly into more general use; it produces more seeds than any of the others, which are easily gathered, and readily grow. In one respect, it is inferior to the three first grasses; it does not produce its flowering stems earlier than about the middle of June, a fortnight or three weeks later than the *Meadow Fox-Tail Grass*, yet it cannot be considered as a late grass, as most of the *Agrostis* tribe, and the *Meadow Cats-Tail Grass*, flower at least three weeks later. It must be carefully distinguished from the *Festuca Elatior* or *Tall Fescue-Grass*, which is a very similar but much coarser grass.

VI. *CYNOSURUS*



VI. CYNOSURUS CRISTATUS. *Crested Dogs-Tail Grass.* Fig. 9.

IT is chiefly from the great character which this grass bears as a favourite and wholesome food for sheep, and from its being found in our soundest and best pastures, that it is here recommended. It grows naturally in dry situations, and will not thrive in meadows that are very wet: it flowers about the same time as the *Meadow Fescue-Grass*, and is not very productive of foliage. As its flowering stems are always left untouched by cattle, its seeds may easily be collected, where the pasture is fed, not mown.

Of the above SIX GRASSES, it will appear that the

Meadow Fox-Tail, and Rough-Stalked Meadow-Grass	} are fittest for	Moist Land.
Meadow Fescue, and Sweet-Scented Vernal .....		Land either moist or moderately dry.
Smooth-Stalked Meadow-Grass, and Crested Dogs-Tail		Dry pasture.

## The ORDER of their FLOWERING.

1. Sweet-Scented Vernal.
2. Meadow Fox-Tail.
3. Smooth-Stalked Meadow.
4. Rough-Stalked Meadow.
5. Meadow Fescue.
6. Crested Dogs-Tail.

We could easily add many more grasses to this list, and those too which, perhaps, may be highly deserving of it; but we have our doubts, whether, by recommending more, we might not increase the difficulty of introducing grass seeds without any adequate advantage.

We shall, however, just take the liberty to mention such other English grasses, as appear to us, from long and repeated observation, deserving of further notice, and these are

*Avena Elatior*, Tall Oat-Grass: Common in wet meadows, and by the sides of hedges, early, and very productive, but coarse.

*Avena Flavescens*, Yellow Oat-Grass: Affects a dry soil, is early, and productive; bids fair to make a good sheep-pasture.

*Avena Pubescens*, Rough Oat-Grass: Soil and situation nearly similar to that of the *Meadow Fescue*, hardy, early, and productive.

*Bromus Erectus*, Upright Brome-Grass: Peculiar to chalky soils, early and productive; promises to be a good grass for chalky lands, and thrives indeed very well on others.

*Cynosurus Caeuleus*, Blue Dogs-Tail Grass: Earliest of all the grasses, grows naturally on the tops of the highest lime-stone rocks in the northern parts of Great-Britain; not very productive, yet may, perhaps, answer in certain situations, especially as a grass for sheep; bears the drought of summer remarkably well: at all events, seems more likely to answer than the *Sheep's Fescue Grass*, on which such encomiums have most unjustly been lavished.

*Dactylis Glomeratus*, Rough Cocks-Foot Grass: A rough coarse grass, but extremely hardy and productive; soil and situation the same as the *Meadow Fescue*.

*Festuca Elatior*, Tall Fescue Grass: Tall and coarse, but very productive; affects wet situations.

*Festuca Duriuscula*, Hard Fescue Grass: Affects such situations as the *Smooth-Stalked Meadow-Grass*; is early, and tolerably productive; its foliage is fine, and of a beautiful green; hence, we have sometimes thought it was, of all others, the fittest for a grass-plat or bowling-green; but we have found, that though it thrives very much when first sown or planted, it is apt to become thin, and die away, after a while.

*Pbleum Pratense*, Meadow Cats-Tail Grass: Affects wet situations, is very productive, but coarse and late.

## DIRECTIONS for Sowing the GRASS SEEDS contained in the PACKET.

IF a piece of ground can be had, that is neither very moist nor very dry, it will answer for all the seeds; they may then be sown on one spot: but if such a piece cannot be obtained, they must be sown on separate spots, according to their respective qualities, no matter whether in a garden, a nursery, or a field, provided it be well secured and clean. Dig up the ground, level, and rake it, then sow each kind of seed thinly in a separate row, each row about a foot apart, and cover them over lightly with the earth: the latter end of August, or beginning of September, will be the most proper time for this business. If the weather be not uncommonly dry, the seeds will quickly vegetate, and the only attention they will require will be to be carefully weeded: in about a fortnight from their coming up, such of the plants as grow thickly together may be thinned, and those which are taken up transplanted, so as to make more rows of the same grass.

If the winter should be very severe, though natives, as seedlings, they may receive injury, therefore it will not be amiss to protect them with mats, fern, or by some other contrivance.

Advantage should be taken of the first dry weather in the spring, to roll or tread them down, in order to fasten their roots in the earth, which the frost generally loosens: care must still be taken to keep them perfectly clear from weeds. As the spring advances, many of them will throw up their flowering stems, and some of them will continue to do so all the summer. As the seed in each spike or panicle ripens, it must be very carefully gathered, and sown in the autumn, at which time the roots of the original plants, which will now bear separating, should be divided and transplanted, so as to form more rows; the roots of the *Smooth-Stalked Meadow-Grass*, in particular, creeping like *Couch-Grass*, may readily be increased in this way; and thus, by degrees, a large plantation of these grasses may be formed, and much seed collected.

While the seeds are thus increasing, the piece or pieces of ground which are intended to be laid down, should be got in order. If very foul, perhaps, the best practice (if pasture land) will be to pare off the sward and burn it on the ground; or, if this should not be thought advisable, it will be proper to plough up the ground and harrow it repeatedly, burning the roots of *Couch-Grass*, and other noxious plants, till the ground is become tolerably clean; to render it perfectly so, some cleansing crop, as potatoes or turnips, should be planted or sown.

By this means, the ground we propose laying down, will be got into excellent order without much loss; and being now ready to form into a meadow or pasture, should be sown broad-cast, with the following composition.

*Meadow Fox-Tail*, one pint.—*Meadow Fescue*, ditto.—*Smooth-Stalked Meadow*, half a pint.—*Rough-Stalked Meadow*, ditto.—*Crested Dogs-Tail*, a quarter of a pint.—*Sweet-Scented Vernal*, ditto.—*Dutch Clover* (*Trifolium Repens*) half a pint.—*Wild Red Clover* (*Trifolium Pratense*) or, in its stead, *Broad Clover of the Shops*, ditto.—For wet land, the *Crested Dogs-Tail*, and *Smooth-Stalked Meadow*, may be omitted, especially the former.

Such a composition as this, sown in the proportion of about three bushels to an acre, on a suitable soil, in a favourable situation, will, I am bold to assert, form in two years a most excellent meadow; and as all the plants sown, are strong, hardy perennials, they will not easily suffer their places to be usurped by any noxious plants, which by manure or other means, in spite of all our endeavours, will be apt to insinuate themselves; if they should, they must be carefully extirpated, for such a meadow is deserving of the greatest attention; but if that attention cannot be bestowed on it, and, in process of time, weeds should predominate over the crop originally sown, the whole should be ploughed up, and fresh sown with the same seeds, or with a better composition, if such shall be discovered; for I have no doubt but, at some future time, it will be as common to sow a meadow with a composition somewhat like this, as it now is to sow a field of wheat or barley.



## An ENUMERATION of the BRITISH GRASSES.

## GENUS I.

## AGROSTIS. BENT-GRASS.

- 1 Spicaventi. *L.* 110. *H.* 30. *R.* 405. n. 17. \* Bearded.
- 2 Canina. *L.* 110. *H.* 30. \* Brown.
- 3 Tenuifolia. *H.* var. *canina*. α \* Fine-Leaved.
- 4 Setacea. *H.* var. *canina*. γ \* Sheeps-Fescue-Leaved.
- 5 Alba. *L.* 111. *H.* var. *polymorpha*. ζ \* Marsh.
- 6 Capillaris. *L.* 111. *H.* var. *Polymorpha*. α \* Fine-Panicked.
- 7 Minima. *L.* 111. *H.* 32. *R.* Indic. *pl. dub.* Small.

## GENUS II.

## AIRA. HAIR-GRASS.

- 1 Aquatica. *L.* 112. *H.* 33. *R.* 402. n. 3. *Fl. Lond.* \* Water.
- 2 Caspitosa. *L.* 112. *H.* 34. *R.* 403. n. 5. \* Turfy.
- 3 Flexuosa. *L.* 112. *H.* 34. *R.* 407. n. 8. \* Heath.
- 4 Montana. *L.* 112. *H.* 35. \* Mountain.
- 5 Canescens. *L.* 112. *H.* 36. *R.* 405. 16. \* Grey.
- 6 Præcox. *L.* 112. *H.* 36. *R.* 408. 10. f. 2. *Fl. Lond.* \* Early.
- 7 Caryophyllea. *L.* 112. *H.* 36. *R.* 407. 7. \* Silver.

## GENUS III.

## ALOPECURUS. FOX-TAIL-GRASS.

- 1 Pratensis. *L.* 108. *H.* 27. *R.* 396. 1. *Fl. Lond.* \* Meadow.
- 2 Agrestis. *L.* 108. *H.* 27. *R.* 397. 1. *Fl. Lond.* \* Field.
- 3 Genuiculatus. *L.* 108. *H.* 27. *R.* 396. 2. *Fl. Lond.* \* Flote.
- 4 Bulbosus. *L.* 108. *H.* var. *genuiculatus* β. *R.* 397. 3. f. 2. \* Bulbous.
- 5 Montpellierensis. *L.* 109. *H.* 28. *Al. aristatus*. *R.* 396. 4. \* Bearded.

## GENUS IV.

## ANTHOXANTHUM. VERNAL-GRASS.

- 1 Odoratum. *L.* 73. *H.* 11. *R.* 398. *Fl. Lond.* \* Sweet-Scented.

## GENUS V.

## ARUNDO. REED-GRASS.

- 1 Phragmites. *L.* 123. *H.* 53. *R.* 401. 1. \* Common.
- 2 Calamagrostis. *L.* 123. *H.* 54. *R.* 401. 2. \* Wood.
- 3 Epigejos. *L.* 123. *H.* 54. *R.* 401. 3. \* Small.
- 4 Arenaria. *L.* 123. *H.* 54. *R.* 393. 1. \* Sea.

## GENUS VI.

## AVENA. OAT-GRASS.

- 1 Elatior. *L.* 121. *H.* 53. *R.* 406. 3. 4. *Fl. Lond.* \* Tall.
- 2 Pratensis. *L.* 122. *H.* 52. *R.* 405. 1. 21. f. 1. \* Meadow.
- 3 Pubescens. *L.* 122. *H.* 52. *R.* 406. 1. 21. f. 2. \* Rough.
- 4 Flavescens. *L.* 122. *H.* 53. *R.* 407. 5. *Fl. Lond.* \* Yellow.
- 5 Nuda. *L.* 122. *H.* 52. *R.* 389. 6. \* Naked.
- 6 Fatua. *L.* 122. *H.* 52. *R.* 389. 7. \* Bearded.

## GENUS VII.

## BRIZA. QUAKING-GRASS.

- 1 Media. *L.* 115. *H.* 38. *R.* 412. 1. \* Common.
- 2 Minor. *L.* 115. *H.* 38. *R.* 412. 2. \* Small.

## GENUS VIII.

## BROMUS. BROME-GRASS.

- 1 Mollis. *L.* 119. *H.* 48. *polymorphus*. *R.* 413. 5. \* Soft.
- 2 Secalinus. *L.* 119. *H.* 49. *polymorphus*. *R.* 414. 8. \* Field-Lob-Grass.
- 3 Squarrosus. *L.* 119. *H.* 49. \* Corn.
- 4 Erectus. *H.* 49. *R.* 413. 2. \* Upright.
- 5 Muralis. *H.* 50. \* Wall.
- 6 Sterilis. *L.* 120. *H.* 50. *R.* 412. *Fl. Lond.* \* Barren.
- 7 Giganteus. *L.* 120. *H.* 51. *R.* 415. 11. *Fl. Lond.* \* Tall.
- 8 Hirsutus. *L.* 119. *asper*. *H.* 51. *nemorialis*. *R.* 415. 10. \* Hairy.

## GENUS IX.

## CYNOSURUS. DOGS-TAIL-GRASS.

- 1 Cristatus. *L.* 116. *H.* 59. *R.* 398. \* Crested.
- 2 Echinatus. *L.* 116. *H.* 59. *R.* 397. 5. \* Rough.
- 3 Cœruleus. *L.* 117. *H.* 59. *R.* 399. 4. \* Blue.

## GENUS X.

## DACTYLIS. COCKS-FOOT-GRASS.

- 1 Glomerata. *L.* 116. *H.* 43. *R.* 400. 2. \* Rough.
- 2 Maritima. *H.* 43. *cynosuroides*. *R.* 393. 4. \* Sea.

## GENUS XI.

## ELYMUS. LYME-GRASS.

- 1 Arenarius. *L.* 125. *H.* 56. \* Sea.
- 2 Genuiculatus. \* Elbowed.
- 3 Caninus. *L.* 125. *H.* 58. *Triticum caninum*. *R.* 390. 2. \* Dogs.

## GENUS XII.

## FESTUCA. FESCUE-GRASS.

- 1 Bromoides. *L.* 118. *H.* 46. *R.* 415. 13. \* Barren.
- 2 Myurus. *L.* 118. *H.* 46. *R.* 415. 12. \* Wall.
- 3 Ovina. *L.* 118. *H.* 44. *R.* 410. 9. \* Sheeps.
- 4 Duriaefcula. *L.* 118. *H.* 44. *R.* 413. 4. f. 19. f. 1. \* Hard.
- 5 Cambrica. *H.* 45. \* Welch.
- 6 Decumbens. *L.* 119. *H.* 47. *R.* 408. 11. \* Decumbent.
- 7 Pratensis. *H.* 47. *var. fluitans*. *R.* 411. 16. \* Meadow.
- 8 Elatior. *L.* 118. *H.* 47. *R.* 411. 14. \* Tall.
- 9 Loliacea. *H.* 47. *var. fluitans*. \* Darnel.
- 10 Fluitans. *L.* 119. *H.* 46. *R.* 412. 17. *Fl. Lond.* \* Flote.

- 11 Pinnata. *H.* 48. *R.* 392. 5. \* Spiked.
- 12 Rubra. *L.* 118. *H.* 45. \* Purple.
- 13 Glabra. *Lightfoot Fl. Scot. App. p.* 1085. \* Smooth.
- 14 Uniglumis. *H.* 55. *Lolium bromoides*. *R.* 413. 3. f. 17. f. 2. \* Sea.
- 15 Sylvatica. *L.* 120. *Bromus pinnatus*. *H.* 48. *R.* 394. 5. \* Wood.

## GENUS XIII.

## HORDEUM. BARLEY-GRASS.

- 1 Murinum. *L.* 126. *H.* 56. *R.* 391. 1. *Fl. Lond.* \* Wall.
- 2 Maritimum. *H.* 56. *marinum*. *R.* 392. 3. \* Sea.
- 3 Pratense. *H.* 56. *R.* 392. 2. \* Meadow.
- 4 Sylvaticum. *H.* 57. *L.* 125. *Elymus europæus*. *R.* 392. \* Wood.

## GENUS XIV.

## HOLCUS. SOFT-GRASS.

- 1 Mollis. *L.* 905. *H.* 440. *R.* 404. 15. *Fl. Lond.* \* Creeping.
- 2 Lanatus. *L.* 905. *H.* 440. *R.* 404. 14. *Fl. Lond.* \* Meadow.

## GENUS XV.

## LOLIUM. DARNEL-GRASS.

- 1 Perenne. *L.* 124. *H.* 55. *R.* 395. 2. \* Perennial, or Ray-Grass.
- 2 Temulentum. *L.* 124. *H.* 55. *R.* 395. 1. \* Annual.

## GENUS XVI.

## MELICA. MELIC-GRASS.

- 1 Uniflora. *H.* 37. *nutans*. *R.* 403. 6. *Fl. Lond.* \* Single-Flowered.
- 2 Nutans. *L.* 112. *H.* 37. *montana*. *R.* 403. 7. \* Mountain.
- 3 Cœrulea. *L.* 113. *H.* 33. *Aira cœrulea*. *R.* 404. 8. \* Blue.

## GENUS XVII.

## MILIUM. MILLET-GRASS.

- 1 Effusum. *L.* 109. *H.* 29. *R.* 402. 1. *Fl. Lond.* \* Wood.
- 2 Lendigerum. *L.* 109. *H.* 28. *Alopecurus ventricosus*. *R.* 394. 4. \* Corn.

## GENUS XVIII.

## NARDUS. MAT-GRASS.

- 1 Stricta. *L.* 102. *H.* 22. *R.* 393. 2. \* Small.

## GENUS XIX.

## PANICUM. PANIC-GRASS.

- 1 Viride. *L.* 105. *H.* 24. *R.* 393. 1. *Fl. Lond.* \* Green.
- 2 Verticillatum. *L.* 105. *H.* 24. *R.* 394. 3. *Fl. Lond.* \* Whirled.
- 3 Crus-Galli. *L.* 105. *H.* 24. *R.* 394. 2. *Fl. Lond.* \* Smooth.
- 4 Sanguinale. *L.* 106. *H.* 25. *R.* 399. 2. *Fl. Lond.* \* Cocks-Foot.
- 5 Dactylon. *L.* 106. *H.* 25. *R.* 399. 1. \* Creeping.

## GENUS XX.

## POA. MEADOW-GRASS.

- 1 Aquatica. *L.* 113. *H.* 38. *R.* 411. 13. *Fl. Lond.* \* Water or Reed.
- 2 Alpina. *L.* 113. *H.* 39. *var. alpina*. \* Alpine.
- 3 Trivialis. *L.* 113. *H.* 39. *R.* 409. 3. *Fl. Lond.* \* Rough-Stalked.
- 4 Pratensis. *L.* 113. *H.* 39. *R.* 409. 2. *Fl. Lond.* \* Smooth-Stalked.
- 5 Nemoralis. *L.* 115. *H.* 40. *angustifolia*. \* Wood.
- 6 Bulbosa. *L.* 115. *H.* 41. \* Bulbous.
- 7 Compressa. *L.* 115. *H.* 41. *R.* 409. \* Flat-Stalked.
- 8 Annua. *L.* 113. *H.* 42. *R.* 408. 1. *Fl. Lond.* \* Dwarf.
- 9 Maritima. *H.* 42. *R.* 409. 6. \* Sea.
- 10 Retroflexa. *L.* 115. *diffans* ? *H.* 34. *var. aira aquatica*. \* Reflexed.
- 11 Rigida. *L.* 114. *H.* 42. *R.* 410. 8. *Fl. Lond.* \* Hard.
- 12 Cristata. *L.* 115. *H.* *aira cristata*. 33. *R.* 396. 3. \* Crested.

## GENUS XXI.

## PHELUM. CATS-TAIL-GRASS.

- 1 Arenarium. *L.* 108. *H.* 23. *Phalaris arenaria*. *R.* 398. 4. \* Sea.
- 2 Pratense. *L.* 107. *H.* 25. *R.* 398. 1. \* Meadow.
- 3 Nodosum. *L.* 108. *H.* *var. pratense*. \* Bulbous.
- 4 Alpinum. *L.* 108. \* Alpine.
- 5 Paniculatum. *H.* 26. \* Branched.

## GENUS XXII.

## PHALARIS. CANARY-GRASS.

- 1 Phleoides. *L.* 104. \* Cats-Tail.
- 2 Canariensis. *L.* 103. *H.* 23. \* Birds.
- 3 Arundinacea. *L.* 104. *H.* 23. *R.* 400. 1. \* Reed.

## GENUS XXIII.

## ROTTBOELLA. HARD-GRASS.

- 1 Incurvata. *L.* 124. *H.* 441. *Ægilops incurva*. *R.* 395. 3. \* Sea.

## GENUS XXIV.

## STIPA. FEATHER-GRASS.

- 1 Pennata. *L.* 121. *H.* 29. *R.* 393. 3. \* Long-Awned.

## GENUS XXV.

## TRITICUM. WHEAT-GRASS.

- 1 Junceum. *L.* 127. *H.* 58. *R.* 391. 4. \* Rushy.
- 2 Repens. *L.* 127. *H.* 57. *R.* 390. \* Creeping, or Couch-Grass.
- 3 Maritimum. *L.* 127. *H.* 43. *Poa loliacea*. *R.* 395. 4. \* Sea.

All those grasses which have an asterisk before their English names, are at present growing in my Botanic-Garden, Lambeth-Marsh.—*L.* refers to the 14th Edition of the *Systema Vegetabilium* of Linnæus, published by Prof. Murray, Göttingæ, 1784.—*H.* refers to the 2d Edition of Mr. Hudson's *Flora Anglica*.—*R.* to the 3d Edition of Mr. Ray's *Synopsis*.—And *Fl. Lond.* to the *Flora Londinensis*, in which, the grasses so referred to, are figured of their natural size.

In this Catalogue there are twelve more species enumerated than in Stillingfleet, and fifteen more than in the last Edition of Mr. Hudson's *Flora Anglica*; we have little doubt but some of these will prove varieties, particularly Alopecurus, 4. Bromus, 3. 5. Festuca, 12. and Poa, 6. some have, perhaps, no right to appear in a British List, as Avena, 5. and Phalaris, 2.—Phleum, 4. is inserted on the authority of Mr. Dixon, who discovered it in his late tour into Scotland.

We are far from considering this catalogue as complete; but, if it has no other use, it may excite others to make it so: though the word complete can but seldom be applied with propriety to any part of Natural History, as new subjects are perpetually discovered, and which often make it necessary not only to add to, but to alter names and descriptions that have been long established.



# I N D E X I.

In which the Plants contained in the fifth Fasciculus are arranged, according  
to the System of LINNÆUS.

<i>Latin Name.</i>	<i>Class and Order.</i>
1 Ligustrum vulgare.....	DIANDRIA Monogynia.
2 Veronica Anagallis.....	
3 Veronica scutellata.....	
4 Valeriana Locusta.....	TRIANDRIA Monogynia.
5 Alopecurus pratensis.....	
6 Alopecurus geniculatus.....	
7 Bromus giganteus.....	TRIANDRIA Digynia.
8 Holcus mollis.....	
9 Hordeum murinum.....	
10 Melica uniflora.....	TETRANDRIA Monogynia.
11 Melica cærulea.....	
12 Poa aquatica.....	
13 Sherardia arvensis.....	TETRANDRIA Tetragynia.
14 Sagina apetala.....	
15 Potamogeton crispum.....	
16 Atropa Belladonna.....	PENTANDRIA Monogynia.
17 Lycoplis arvensis.....	
18 Lyfimachia nemorum.....	
19 Lyfimachia vulgaris.....	PENTANDRIA Digynia.
20 Chenopodium olidum.....	
21 Scandix Pecten.....	
22 Linum usitatissimum.....	PENTANDRIA Pentagynia.
23 Leucojum æstivum.....	
24 Convallaria majalis.....	
25 Juncus pilosus.....	HEXANDRIA Monogynia.
26 Juncus sylvaticus.....	
27 Alisma Plantago.....	
28 Alisma Damasonium.....	HEXANDRIA Polygynia.
29 Rumex Acetosella.....	
30 Erica vulgaris.....	
31 Spargula arvensis.....	OCTANDRIA Monogynia.
32 Agrimonia Eupatoria.....	
33 Spiræa Ulmaria.....	
34 Rosa canina.....	DECANDRIA Pentagynia.
35 Tormentilla officinalis.....	
36 Cistus Helianthemum.....	
37 Papaver dubium.....	DODECANDRIA Digynia.
38 Papaver Argemone.....	
39 Origanum vulgare.....	
40 Teucrium Scorodonia.....	ICOSANDRIA Pentagynia.
41 Antirrhinum minus.....	
42 Euphrasia officinalis.....	
43 Rhinanthus Crista Galli.....	ICOSANDRIA Polygynia.
44 Schrophularia aquatica.....	
45 Thlaspi campestre.....	
46 Sinapis alba.....	POLYANDRIA Monogynia.
47 Sinapis arvensis.....	
48 Silymbrium Irio.....	
49 Silymbrium terrestre.....	DIDYNAMIA Gymnospermia.
50 Erysimum officinale.....	
51 Lathyrus Aphaca.....	
52 Spartium Scoparium.....	DIDYNAMIA Angiospermia.
53 Trifolium procumbens.....	
54 Vicia Cracca.....	
55 Crepis tectorum.....	TETRADYNAMIA Siliculosa.
56 Leontodon hispidum.....	
57 Onopordum Acanthium.....	
58 Prenanthes muralis.....	TETRADYNAMIA Siliquosa.
59 Sonchus palustris.....	
60 Achillea Ptarmica.....	
61 Anthemis Cotula.....	DIADELPHIA Decandria.
62 Chrysanthemum Leucanthemum.....	
63 Matricaria Chamomilla.....	
64 Senecio erucæfolius.....	SYNGENESIA Polygamia æqualis.
65 Orchis latifolia.....	
66 Sparganium ramosum.....	
67 Sparganium simplex.....	SYNGENESIA Polygamia superflua.
68 Mercurialis annua.....	
69 Agaricus aurantius.....	
70 Agaricus æruginosus.....	GYNANDRIA Diandria.
71 Agaricus carnosus.....	
72 Agaricus verrucosus.....	



# INDEX II.

Latin Names of the Plants in the fifth Fasciculus, arranged Alphabetically.

	Plate
Achillea Ptarmica .....	60
Agaricus aurantius .....	69
Agaricus æruginosus .....	70
Agaricus carneus .....	71
Agaricus verrucosus .....	72
Agrimonia Eupatoria .....	32
Alisma Plantago .....	27
Alisma Damasonium .....	28
Alopecurus pratensis .....	5
Alopecurus geniculatus .....	6
Anthemis Cotula .....	61
Antirrhinum minus .....	41
Atropa Belladonna .....	16
Bromus giganteus .....	7
Chenopodium olidum .....	20
Chrysanthemum Leucanthemum .....	62
Cistus Helianthemum .....	36
Convallaria majalis .....	24
Crepis tectorum .....	55
Erica vulgaris .....	30
Erysimum officinale .....	50
Euphrasia officinalis .....	42
Holcus mollis .....	8
Hordeum murinum .....	9
Juncus pilosus .....	25
Juncus sylvaticus .....	26
Lathyrus Aphaca .....	51
Leontodon hispidum .....	56
Leucojum æstivum .....	23
Ligustrum vulgare .....	1
Linum usitatissimum .....	22
Lycopsis arvensis .....	17
Lythymachia nemorum .....	18
Lythymachia vulgaris .....	19
Matricaria Chamomilla .....	63
Melica uniflora .....	10
Melica cærulea .....	11
Mercurialis annua .....	68
Onopordum Acanthium .....	57
Orchis latifolia .....	65
Origanum vulgare .....	39
Papaver dubium .....	37
Papaver Argemone .....	38
Poa aquatica .....	12
Potamogeton crispum .....	15
Prenanthes muralis .....	58
Rhinanthus Crista Galli .....	43
Rosa canina .....	34
Rumex Acetosella .....	29
Sagina apetala .....	14
Scandix Pecten .....	21
Schrophularia aquatica .....	44
Senecio cruceifolius .....	64
Sherardia arvensis .....	13
Sinapis alba .....	46
Sinapis arvensis .....	47
Sisymbrium Irio .....	48
Sisymbrium terrestre .....	49
Sonchus palustris .....	59
Sparganium ramosum .....	66
Sparganium simplex .....	67
Spartium scoparium .....	52
Spergula arvensis .....	31
Spiraea Ulmaria .....	33
Teucrium Scorodonia .....	40
Thlaspi campestre .....	45
Tormentilla officinalis .....	35
Trifolium procumbens .....	53
Valeriana Locusta .....	4
Veronica scutellata .....	3
Veronica Anagallis .....	2
Vicia Cracca .....	54

# INDEX III.

English Names of the Plants in the fifth Fasciculus, arranged Alphabetically.

	Plate
AGRIMONY .....	32
BARLEY-GRASS wall .....	9
BLITE stinking .....	20
BROME-GRASS tall .....	7
BROOM common .....	31
BUGLOSS field .....	17
BURR-REED great .....	60
BURR-REED small .....	67
CHAMOMILE corn .....	63
CHARLOCK .....	47
CISTUS dwarf .....	30
CORN-SALLAD .....	4
COTTON-THISTLE .....	57
DANDELION rough .....	56
DWALE, or DEADLY NIGHTSHADE .....	16
EYEBRIGHT common .....	42
FIGWORT water .....	14
FLAX common .....	22
FOXTAIL-GRASS jointed .....	6
FOXTAIL-GRASS meadow .....	5
GERMANDER sage-leav'd .....	40
HEDGE-MUSTARD .....	50
HEATH common .....	30
LILY OF THE VALLEY .....	24
LOOSE STRIFE yellow .....	19
MARJORAM wild .....	39
MAYWEED stinking .....	61
MEADOW-GRASS water .....	12
MEADOW-SWEET .....	33
MELIC-GRASS single-flower'd .....	10
MELIC-GRASS blue .....	11
MERCURY annual .....	68
MITHRIDATE-MUSTARD .....	45
MONEYWORT wood .....	18
MUSHROOM fleshy .....	71
MUSHROOM warty .....	72
MUSHROOM orange .....	69
MUSHROOM verdigris .....	70
MUSTARD white .....	46
ORCHIS marsh .....	65
OXEYE common .....	62
PEARLWORT annual .....	14
PONDWEED curled .....	15
POPPY long prickly-headed .....	38
POPPY long smooth-headed .....	37
PRENANTHES, or WILD LETTUCE .....	58
PRIVET, or PRIM .....	1
RAGWORT hoary .....	64
ROCKET London .....	48
ROSE dog .....	34
RUSH small hairy wood .....	25
RUSH great hairy wood .....	26
SHEPHERDS-NEEDLE .....	21
SHERARDIA field .....	13
SNEESEWORT .....	60
SNOWFLAKE summer .....	23
SOFT-GRASS creeping .....	8
SORREL sheeps .....	29
SOW-THISTLE tree .....	59
SPEEDWELL bog .....	3
SPEEDWELL water .....	2
SPURREY corn .....	31
SUCCORY HAWKWEED smooth .....	55
TOAD-FLAX least .....	41
TORMENTIL .....	35
TREFOIL procumbent .....	53
VETCH tufted .....	54
VETCHLING yellow .....	51
WATER-PLANTAIN starry-headed .....	28
WATER-PLANTAIN greater .....	27
WATER-RADISH annual .....	49
YELLOW-RATTLE .....	1



# I N D E X,

IN WHICH

The Plants of the fourth, fifth, and sixth Fasciculi, or second Volume, are arranged according to the System of LINNÆUS.

<i>Latin Name.</i>	<i>English Name.</i>	<i>Class and Order.</i>
1 <b>H</b> IPPURIS vulgaris . . . . .	Mares-tail . . . . .	MONANDRIA Monogynia.
2 Salvia verbenaca . . . . .	Wild Clary or Sage . . . . .	} DIANDRIA Monogynia.
3 Ligustrum vulgare . . . . .	Privet or Prim . . . . .	
4 Veronica triphyllos . . . . .	Speedwell trifid . . . . .	
5 Veronica scutellata . . . . .	Speedwell bog . . . . .	
6 Veronica Anagallis . . . . .	Speedwell water . . . . .	
7 Veronica montana . . . . .	Speedwell mountain . . . . .	} TRIANDRIA Monogynia.
8 Valeriana officinalis . . . . .	Valerian wild . . . . .	
9 Valeriana dioica . . . . .	Valerian marsh . . . . .	
10 Valeriana Locusta . . . . .	Corn-salad . . . . .	
11 Scirpus maritimus . . . . .	Club-rush round-rooted . . . . .	
12 Eriophorum polystachion . . . . .	Cotton-grass many-headed . . . . .	} TRIANDRIA Digynia.
13 Eriophorum vaginatum . . . . .	Cotton-grass single-headed . . . . .	
14 Agrostis fetacea . . . . .	Bent-grass Sheep's-fescue-leav'd . . . . .	
15 Aira caryophylla . . . . .	Hair-grass silver . . . . .	
16 Alopecurus geniculatus . . . . .	Foxtail-grass jointed or flote . . . . .	
17 Alopecurus pratensis . . . . .	Foxtail-grass meadow . . . . .	} TRIANDRIA Digynia.
18 Bromus diandrus . . . . .	Brome-grass diandrous . . . . .	
19 Bromus giganteus . . . . .	Brome-grass tall . . . . .	
20 Festuca dactylota . . . . .	Fescue-grass tall . . . . .	
21 Festuca pratensis . . . . .	Fescue-grass meadow . . . . .	
22 Festuca loliacea . . . . .	Fescue-grass darnel . . . . .	} TRIANDRIA Digynia.
23 Hordeum murinum . . . . .	Barley-grass wall . . . . .	
24 Melica cærulea . . . . .	Melic-grass blue . . . . .	
25 Melica uniflora . . . . .	Melic-grass single-flower'd . . . . .	
26 Melica nutans . . . . .	Melic-grass mountain . . . . .	
27 Milium effusum . . . . .	Millet-grass wood . . . . .	} TRIANDRIA Digynia.
28 Panicum Crus-galli . . . . .	Panic-grass loose . . . . .	
29 Panicum sanguinale . . . . .	Panic-grass cock's-foot . . . . .	
30 Panicum viride . . . . .	Panic-grass green . . . . .	
31 Panicum verticillatum . . . . .	Panic-grass rough . . . . .	
32 Poa retroflexa . . . . .	Meadow-grass reflexed . . . . .	} TETRANDRIA Monogynia.
33 Poa procumbens . . . . .	Meadow-grass procumbent . . . . .	
34 Poa aquatica . . . . .	Meadow-grass water or reed . . . . .	
35 Asperula odorata . . . . .	Woodruff sweet-scented . . . . .	
36 Galium verum . . . . .	Bedstraw yellow . . . . .	
37 Plantago media . . . . .	Plantain hoary . . . . .	} TETRANDRIA Monogynia.
38 Scabiosa arvensis . . . . .	Scabious field . . . . .	
39 Sherardia arvensis . . . . .	Sherardia field . . . . .	
40 Sagina apetala . . . . .	Pearl-wort annual . . . . .	} TETRANDRIA Tetragynia.
41 Potamogeton crispum . . . . .	Pond-weed curled . . . . .	
42 Lycopodium arvensis . . . . .	Bugloss field . . . . .	
43 Lythymachia nemorum . . . . .	Moneywort wood . . . . .	
44 Lythymachia vulgaris . . . . .	Loose-strife yellow . . . . .	
45 Vinca major . . . . .	Periwinkle great . . . . .	} PENTANDRIA Monogynia.
46 Cynoglossum officinale . . . . .	Hounds-tongue common . . . . .	
47 Samolus Valerandi . . . . .	Water-pimpernel round-leav'd . . . . .	
48 Campanula rotundifolia . . . . .	Bell-flower heath or round-leav'd . . . . .	
49 Symphytum officinale . . . . .	Comfrey common . . . . .	
50 Menyanthes trifoliata . . . . .	Buck-bean . . . . .	} PENTANDRIA Monogynia.
51 Primula acaulis . . . . .	Primrose . . . . .	
52 Primula officinalis . . . . .	Cowslip . . . . .	
53 Primula farinosa . . . . .	Bird's-eye . . . . .	
54 Pulmonaria maritima . . . . .	Lungwort sea . . . . .	
55 Datura Stramonium . . . . .	Thorn-apple . . . . .	} PENTANDRIA Monogynia.
56 Atropa Belladonna . . . . .	Dwale or deadly Nightshade . . . . .	
57 Chironia Centaurium . . . . .	Centaurry . . . . .	



# I N D E X.

<i>Latin Name.</i>	<i>English Name.</i>	<i>Class and Order.</i>
58 Chærophyllym sylvestre . . . . .	Cow-parſley common . . . . .	PENTANDRIA Digynia.
59 Chærophyllym temulum . . . . .	Cow-parſley ſmall . . . . .	
60 Bunium Bulbocæſtanum . . . . .	Earth or pig-nut . . . . .	
61 Scandix Pecten . . . . .	Shepherd's-Needle . . . . .	
62 Caucaſis Anthrifiſcus . . . . .	Caucaſis hedge . . . . .	
63 Caucaſis infeſta . . . . .	Caucaſis corn . . . . .	
64 Hydrocotyle vulgaris . . . . .	Penny-wort marſh or White-rot . . . . .	
65 Chenopodium rubrum . . . . .	Goofe-foot ſmall ſeeded . . . . .	
66 Chenopodium murale . . . . .	Goofe-foot nettle-leaved . . . . .	
67 Chenopodium hybridum . . . . .	Goofe-foot thorn-apple-leav'd . . . . .	
68 Chenopodium olidum . . . . .	Blite or Orach ſtinking . . . . .	
69 Linum uſitatiffimum . . . . .	Flax common . . . . .	PENTANDRIA Pentagynia.
70 Myofurus minimus . . . . .	Mouse-tail . . . . .	PENTANDRIA Polygynia.
71 Scilla autumnalis . . . . .	Squill autumnal . . . . .	HEXANDRIA Monogynia.
72 Leucojum æſtivum . . . . .	Snow-flake ſummer . . . . .	
73 Juncus ſylvaticus . . . . .	Ruſh great hairy wood . . . . .	
74 Juncus pilofus . . . . .	Ruſh ſmall hairy wood . . . . .	
75 Peplis Portula . . . . .	Water-Purſlane . . . . .	
76 Convallaria majalis . . . . .	Lily of the Valley . . . . .	
77 Rumex Acetofella . . . . .	Sorrel ſheeps . . . . .	HEXANDRIA Trigynia.
78 Alifma Plantago . . . . .	Water-plantain great . . . . .	HEXANDRIA Polygynia.
79 Alifma Damalonium . . . . .	Water-plantain ſtarry-headed . . . . .	
80 Erica vulgaris . . . . .	Heath common . . . . .	OCTANDRIA Monogynia.
81 Polygonum amphibium . . . . .	Perſicaria amphibious . . . . .	OCTANDRIA Trigynia.
82 Polygonum convolvulus . . . . .	Buck-wheat climbing . . . . .	
83 Saxifraga oppoſitifolia . . . . .	Saxifrage purple . . . . .	DECANDRIA Digynia.
84 Saxifraga hirculus . . . . .	Saxifrage marſh . . . . .	
85 Silene anglica . . . . .	Catchfly Engliſh . . . . .	DECANDRIA Trigynia.
86 Arenaria trinervia . . . . .	Chickweed plantain-leav'd . . . . .	
87 Arenaria ſerpyllifolia . . . . .	Chickweed thyme-leav'd . . . . .	
88 Stellaria uliginofa . . . . .	Stichwort bog . . . . .	
89 Spargula ſaginoides . . . . .	Spurrey pearlwort . . . . .	DECANDRIA Pentagynia.
90 Spargula nodofa . . . . .	Spurrey knotted . . . . .	
91 Spargula arvenſis . . . . .	Spurrey corn . . . . .	
92 Ceraſtium pumilum . . . . .	Mouse-ear-Chickweed dwarf . . . . .	
93 Ceraſtium tetrandrum . . . . .	Mouse-ear-Chickweed tetrandrous . . . . .	
94 Ceraſtium arvenſe . . . . .	Mouse-ear-Chickweed corn . . . . .	
95 Sedum ſexangulare . . . . .	Stonecrop infipid . . . . .	
96 Agrimonia Eupatoria . . . . .	Agrimony . . . . .	DODECANDRIA Digynia.
97 Euphorbia exigua . . . . .	Spurge ſmall . . . . .	DODECANDRIA Trigynia.
98 Spiræa Ulmaria . . . . .	Meadow-sweet . . . . .	ICOSANDRIA Pentagynia.
99 Tormentilla officinalis . . . . .	Tormentil officinal . . . . .	ICOSANDRIA Polygynia.
100 Roſa canina . . . . .	Roſe dog . . . . .	
101 Glaucium corniculatum . . . . .	Horned-Poppy red . . . . .	POLYANDRIA Monogynia.
102 Ciſtus guttatus . . . . .	Ciſtus ſpotted-flower'd . . . . .	
103 Ciſtus Helianthemum . . . . .	Ciſtus dwarf . . . . .	
104 Papaver dubium . . . . .	Poppy long ſmooth-headed . . . . .	
105 Papaver Argemone . . . . .	Poppy long prickly-headed . . . . .	
106 Clematis Vitalba . . . . .	Travellers-joy . . . . .	POLYANDRIA Polygynia.
107 Ranunculus Flammula . . . . .	Spearwort ſmall . . . . .	
108 Ranunculus arvenſis . . . . .	Crowfoot corn . . . . .	
109 Ranunculus repens . . . . .	Crowfoot creeping . . . . .	
110 Ranunculus hederaceus . . . . .	Crowfoot ivy-leav'd . . . . .	
111 Anemone apennina . . . . .	Anemone mountain . . . . .	
112 Helleborus viridis . . . . .	Hellebore green . . . . .	
113 Meliſſa Nepeta . . . . .	Calamint field . . . . .	DIDYNAMIA Gymnoſpermia.
114 Meliſſis Meliſſophyllum . . . . .	Baſtard-Balm . . . . .	
115 Galeopſis verſicolor . . . . .	Galeopſis parti-coloured . . . . .	
116 Stachys arvenſis . . . . .	Stachys corn . . . . .	
117 Galeobdolon Galeopſis . . . . .	Archangel yellow . . . . .	
118 Prunella vulgaris . . . . .	Self-heal . . . . .	
119 Origanum vulgare . . . . .	Marjoram wild . . . . .	
120 Teucrium Scorodonia . . . . .	Germander ſage-leav'd . . . . .	
121 Scutellaria minor . . . . .	Hooded-willow-herb ſmall . . . . .	



# INDEX.

<i>Latin Name.</i>	<i>English Name.</i>	<i>Class and Order.</i>
122 <i>Euphrasia officinalis</i> . . . . .	Eyebright common . . . . .	} <i>DIDYNAMIA Angiospermia.</i>
123 <i>Rhinanthus Crista galli</i> . . . . .	Yellow rattle or Cock's-comb . . . . .	
124 <i>Scrophularia aquatica</i> . . . . .	Figwort water . . . . .	
125 <i>Antirrhinum Peloria</i> . . . . .	Peloria . . . . .	
126 <i>Antirrhinum minus</i> . . . . .	Toad-flax leaf . . . . .	
127 <i>Antirrhinum Orontium</i> . . . . .	Snapdragon small . . . . .	
128 <i>Orobanche major</i> . . . . .	Broom-rape common . . . . .	
129 <i>Sinapis arvensis</i> . . . . .	Charlock . . . . .	} <i>TETRADYNAMIA Siliquosa.</i>
130 <i>Sinapis alba</i> . . . . .	Mustard white . . . . .	
131 <i>Raphanus Raphanistrum</i> . . . . .	Radish wild . . . . .	
132 <i>Cardamine hirsuta</i> . . . . .	Ladies-smock hairy . . . . .	
133 <i>Turritis glabra</i> . . . . .	Tower-mustard smooth . . . . .	
134 <i>Sisymbrium terrestre</i> . . . . .	Water-radish annual . . . . .	
135 <i>Sisymbrium Irio</i> . . . . .	Rocket London . . . . .	
136 <i>Sisymbrium Nasturtium</i> . . . . .	Water-cress . . . . .	
137 <i>Erysimum officinale</i> . . . . .	Hedge-mustard . . . . .	
138 <i>Thlaspi campestre</i> . . . . .	Mithridate-mustard . . . . .	} <i>TETRADYNAMIA Siliculosa.</i>
139 <i>Thlaspi arvense</i> . . . . .	Penny-cress . . . . .	
140 <i>Iberis nudicaulis</i> . . . . .	Rock-cress . . . . .	
141 <i>Geranium parviflorum</i> . . . . .	Crane's-bill small-flowered . . . . .	} <i>MONADELPHIA Decandria.</i>
142 <i>Geranium dissectum</i> . . . . .	Crane's-bill jagged . . . . .	
143 <i>Geranium pratense</i> . . . . .	Crane's-bill Crowfoot . . . . .	
144 <i>Malva moschata</i> . . . . .	Mallow musk . . . . .	<i>MONADELPHIA Polyandria.</i>
145 <i>Fumaria capreolata</i> . . . . .	Fumitory ramping . . . . .	<i>DIADELPHIA Hexandria.</i>
146 <i>Vicia Cracca</i> . . . . .	Vetch tufted . . . . .	} <i>DIADELPHIA Decandria.</i>
147 <i>Lathyrus Aphaca</i> . . . . .	Vetchling yellow . . . . .	
148 <i>Lathyrus Nissolia</i> . . . . .	Vetch crimson grass . . . . .	
149 <i>Lathyrus sylvestris</i> . . . . .	Vetchling narrow-leaved . . . . .	
150 <i>Spartium scoparium</i> . . . . .	Broom common . . . . .	
151 <i>Ornithopus perpusillus</i> . . . . .	Bird's-foot common . . . . .	
152 <i>Trifolium scabrum</i> . . . . .	Trefoil rough . . . . .	
153 <i>Trifolium arvense</i> . . . . .	Trefoil hare's-foot . . . . .	
154 <i>Trifolium ochroleucum</i> . . . . .	Clover yellow . . . . .	
155 <i>Trifolium glomeratum</i> . . . . .	Trefoil round-headed . . . . .	
156 <i>Trifolium procumbens</i> . . . . .	Trefoil procumbent . . . . .	
157 <i>Hypericum quadrangulum</i> . . . . .	St. John's-wort square-stalked . . . . .	<i>POLYADELPHIA Polyandria.</i>
158 <i>Hieracium Pilosella</i> . . . . .	Moose-ear . . . . .	} <i>SYNGENESIA Polygamia Æqualis.</i>
159 <i>Hieracium umbellatum</i> . . . . .	Hawk-weed bushy . . . . .	
160 <i>Leontodon hirtum</i> . . . . .	Dandelion deficient . . . . .	
161 <i>Leontodon hispidum</i> . . . . .	Dandelion rough . . . . .	
162 <i>Crepis tectorum</i> . . . . .	Succory-Hawkweed smooth . . . . .	
163 <i>Sonchus arvensis</i> . . . . .	Sow-thistle corn . . . . .	
164 <i>Sonchus palustris</i> . . . . .	Sow-thistle marsh . . . . .	
165 <i>Cichorium Intybus</i> . . . . .	Succory blue . . . . .	
166 <i>Prenanthes muralis</i> . . . . .	Wild-lettuce ivy-leaved . . . . .	
167 <i>Bidens tripartita</i> . . . . .	Hemp-agrimony trifid . . . . .	
168 <i>Carduus tenuiflorus</i> . . . . .	Thistle slender-flowered . . . . .	
169 <i>Carduus polyacanthos</i> . . . . .	Thistle prickliest . . . . .	
170 <i>Carduus palustris</i> . . . . .	Thistle marsh . . . . .	
171 <i>Carduus arvensis</i> . . . . .	Thistle cursed . . . . .	
172 <i>Onopordum Acanthium</i> . . . . .	Cotton-thistle . . . . .	
173 <i>Arctium Lappa</i> . . . . .	Burdock . . . . .	
174 <i>Chrysanthemum Leucanthemum</i> . . . . .	Ox-eye daisy . . . . .	} <i>SYNGENESIA Polygamia Superflua.</i>
175 <i>Chrysanthemum segetum</i> . . . . .	Corn-marigold . . . . .	
176 <i>Achillea Ptarmica</i> . . . . .	Sneeze-wort . . . . .	
177 <i>Achillea Millefolium</i> . . . . .	Yarrow . . . . .	
178 <i>Senecio erucæfolius</i> . . . . .	Ragwort hoary . . . . .	
179 <i>Anthemis Cotula</i> . . . . .	May-weed stinking . . . . .	
180 <i>Matricaria Chamomilla</i> . . . . .	Camomile corn . . . . .	
181 <i>Centaurea Cyanus</i> . . . . .	Blue-bottle corn . . . . .	<i>SYNGENESIA Polygamia Frustranea.</i>
182 <i>Jasione montana</i> . . . . .	Sheeps-scabious hairy . . . . .	} <i>SYNGENESIA Monogamia.</i>
183 <i>Lobelia urens</i> . . . . .	Lobelia acrid . . . . .	
184 <i>Orchis latifolia</i> . . . . .	Orchis marsh . . . . .	} <i>GYNANDRIA Diandria.</i>
185 <i>Orchis fufca</i> . . . . .	Orchis great . . . . .	
186 <i>Orchis bifolia</i> . . . . .	Orchis butterfly . . . . .	
187 <i>Ophrys spiralis</i> . . . . .	Ladies-traces . . . . .	
188 <i>Ophrys fucifera</i> . . . . .	Ophrys green-winged . . . . .	
189 <i>Ophrys anthropophora</i> . . . . .	Ophrys man . . . . .	



# INDEX.

<i>Latin Name.</i>	<i>English Name.</i>	<i>Class and Order.</i>
190 <i>Carex riparia</i> . . . . .	Carex great . . . . .	} <i>MONŒCIA Triandria.</i>
191 <i>Carex acuta</i> . . . . .	Carex acute . . . . .	
192 <i>Carex gracilis</i> . . . . .	Carex slender-spiked . . . . .	
193 <i>Carex ventricosa</i> . . . . .	Carex turgid . . . . .	
194 <i>Sparganium ramosum</i> . . . . .	Burr-reed great . . . . .	
195 <i>Sparganium simplex</i> . . . . .	Burr-reed small . . . . .	
196 <i>Urtica dioica</i> . . . . .	Nettle common or great . . . . .	
197 <i>Urtica urens</i> . . . . .	Nettle small . . . . .	
198 <i>Salix monandra</i> . . . . .	Willow bitter . . . . .	} <i>DIOECIA Diandria.</i>
199 <i>Salix triandra</i> . . . . .	Willow triandrous . . . . .	
200 <i>Mercurialis annua</i> . . . . .	Mercury annual . . . . .	<i>DIOECIA Enneandria.</i>
201 <i>Holcus lanatus</i> . . . . .	Soft-grass meadow . . . . .	} <i>POLYGAMIA Monoecia.</i>
202 <i>Holcus mollis</i> . . . . .	Soft-grass creeping-rooted . . . . .	
203 <i>Parietaria officinalis</i> . . . . .	Pellitory of the wall . . . . .	
204 <i>Equisetum arvense</i> . . . . .	Horse-tail corn . . . . .	<i>CRYPTOGAMIA Filices.</i>
205 <i>Bryum barbatum</i> . . . . .	Bryum bearded . . . . .	} <i>CRYPTOGAMIA Musci.</i>
206 <i>Phascum acaulon</i> . . . . .	Phascum common . . . . .	
207 <i>Phascum subulatum</i> . . . . .	Phascum heath . . . . .	
208 <i>Jungermannia complanata</i> . . . . .	Jungermannia flat . . . . .	<i>CRYPTOGAMIA Algæ.</i>
209 <i>Agaricus aurantius</i> . . . . .	Mushroom orange . . . . .	} <i>CRYPTOGAMIA Fungi.</i>
210 <i>Agaricus æruginosus</i> . . . . .	Mushroom verdigris . . . . .	
211 <i>Agaricus floccosus</i> . . . . .	Mushroom shaggy . . . . .	
212 <i>Agaricus procerus</i> . . . . .	Mushroom tall . . . . .	
213 <i>Agaricus velutipes</i> . . . . .	Mushroom velvet-stalked . . . . .	
214 <i>Agaricus carnosus</i> . . . . .	Mushroom fleshy . . . . .	
215 <i>Agaricus verrucosus</i> . . . . .	Mushroom warty . . . . .	
216 <i>Boletus lucidus</i> . . . . .	Boletus lacquer'd . . . . .	
217 <i>Phallus caninus</i> . . . . .	Morell red-headed . . . . .	





# I N D E X I.

In which the Plants contained in the sixth Fasciculus are arranged according  
to the System of LINNÆUS.

<i>Latin Name.</i>	<i>Class and Order.</i>
1 <i>Salvia verbenaca</i> .....	} DIANDRIA <i>Monogynia</i> .
2 <i>Veronica triphyllos</i> .....	
3 <i>Valeriana officinalis</i> .....	} TRIANDRIA <i>Monogynia</i> .
4 <i>Melica nutans</i> .....	
5 <i>Bromus diandrus</i> .....	} TRIANDRIA <i>Digynia</i> .
6 <i>Aira caryophyllea</i> .....	
7 <i>Festuca pratensis</i> .....	
8 <i>Festuca elatior</i> .....	
9 <i>Festuca loliacea</i> .....	
10 <i>Poa retroflexa</i> .....	} TETRANDRIA <i>Monogynia</i> .
11 <i>Poa procumbens</i> .....	
12 <i>Agrostis setacea</i> .....	} PENTANDRIA <i>Monogynia</i> .
13 <i>Galium verum</i> .....	
14 <i>Primula farinosa</i> .....	
15 <i>Primula officinalis</i> .....	
16 <i>Primula acaulis</i> .....	} PENTANDRIA <i>Digynia</i> .
17 <i>Datura Stramonium</i> .....	
18 <i>Pulmonaria maritima</i> .....	
19 <i>Hydrocotyle vulgaris</i> .....	
20 <i>Chenopodium murale</i> .....	} PENTANDRIA <i>Digynia</i> .
21 <i>Chenopodium rubrum</i> .....	
22 <i>Caucalis Anthriscus</i> .....	
23 <i>Caucalis infesta</i> .....	
24 <i>Chacrophylum temulum</i> .....	} HEXANDRIA <i>Monogynia</i> .
25 <i>Scilla autumnalis</i> .....	
26 <i>Saxifraga Hirculus</i> .....	} DECANDRIA <i>Digynia</i> .
27 <i>Saxifraga oppositifolia</i> .....	
28 <i>Stellaria uliginosa</i> .....	} DECANDRIA <i>Triangynia</i> .
29 <i>Cerastium arvense</i> .....	
30 <i>Cerastium pumilum</i> .....	} DECANDRIA <i>Pentagynia</i> .
31 <i>Cerastium tetrandrum</i> .....	
32 <i>Glaucium corniculatum</i> .....	} POLYANDRIA <i>Monogynia</i> .
33 <i>Cistus guttatus</i> .....	
34 <i>Helleborus viridis</i> .....	} POLYANDRIA <i>Polygynia</i> .
35 <i>Anemone apennina</i> .....	
36 <i>Ranunculus arvensis</i> .....	
37 <i>Ranunculus Flammula</i> .....	
38 <i>Galeopsis versicolor</i> .....	} DIDYNAMIA <i>Gymnospermia</i> .
39 <i>Melittis Melissophyllum</i> .....	
40 <i>Melissa Nepeta</i> .....	} DIDYNAMIA <i>Angiospermia</i> .
41 <i>Antirrhinum Peloria</i> .....	
42 <i>Iberis nudicaulis</i> .....	} TETRADYNAMIA <i>Siliculosa</i> .
43 <i>Thlaspi arvense</i> .....	
44 <i>Sisymbrium Nasturtium</i> .....	} TETRADYNAMIA <i>Siliquosa</i> .
45 <i>Geranium dissectum</i> .....	
46 <i>Geranium parviflorum</i> .....	} MONADELPHIA <i>Decandria</i> .
47 <i>Fumaria capreolata</i> .....	
48 <i>Trifolium scabrum</i> .....	} DIADELPHIA <i>Hexandria</i> .
49 <i>Trifolium ochroleucum</i> .....	
50 <i>Trifolium arvense</i> .....	
51 <i>Lathyrus Nissolia</i> .....	
52 <i>Lathyrus Sylvestris</i> .....	} DIADELPHIA <i>Decandria</i> .
53 <i>Ornithopus perpusillus</i> .....	
54 <i>Carduus polyacanthos</i> .....	
55 <i>Carduus tenuiflorus</i> .....	
56 <i>Carduus palustris</i> .....	} SYNGENESIA <i>Polygamia Aequalis</i> .
57 <i>Carduus arvensis</i> .....	
58 <i>Hieracium umbellatum</i> .....	
59 <i>Leontodon hirtum</i> .....	
60 <i>Chrysanthemum segetum</i> .....	} SYNGENESIA <i>Polygamia Superflua</i> .
61 <i>Achillea Millefolium</i> .....	
62 <i>Centaurea Cyanus</i> .....	} SYNGENESIA <i>Polygamia Frustranea</i> .
63 <i>Lobelia urens</i> .....	
64 <i>Orchis fusca</i> .....	} SYNGENESIA <i>Monogamia</i> .
65 <i>Orchis bifolia</i> .....	
66 <i>Ophrys anthropophora</i> .....	
67 <i>Ophrys fucifera</i> .....	
68 <i>Carex ventricosa</i> .....	} GYNANDRIA <i>Digynia</i> .
69 <i>Urtica dioica</i> .....	
70 <i>Urtica urens</i> .....	} MONOECIA <i>Triandria</i> .
71 <i>Salix monandra</i> .....	
72 <i>Salix triandra</i> .....	} MONOECIA <i>Tetrandria</i> .
	} DIOECIA <i>Diandria</i> .



# INDEX II.

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Anemone apennina	35
Antirrhinum Peloria	41
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Carduus polyacanthos	54
Carduus tenuiflorus	55
Carduus palustris	56
Carduus arvensis	57
Carex ventricosa	68
Caucalis Anthriscus	22
Caucalis infesta	23
Centaurea Cyanus	62
Cerastium arvense	29
Cerastium pumilum	30
Cerastium tetrandrum	31
Chenopodium murale	20
Chenopodium rubrum	21
Chærophyllum temulum	24
Chrysanthemum segetum	60
Cistus guttatus	33
Datura Stramonium	17
Festuca pratensis	7
Festuca elatior	8
Festuca loliacea	9
Fumaria capreolata	47
Galeopsis versicolor	38
Galium verum	13
Geranium dissectum	45
Geranium parviflorum	46
Glaucium corniculatum	32
Helleborus viridis	34
Hieracium umbellatum	58
Hydrocotyle vulgaris	19
Iberis nudicaulis	42
Lathyrus sylvestris	52
Lathyrus Nissolia	51
Leontodon hirtum	59
Lobelia urens	63
Melica nutans	4
Melissa Nepeta	40
Melittis Melissophyllum	39
Ophrys anthropophora	66
Ophrys fucifera	67
Orchis fusca	64
Orchis bifolia	65
Ornithopus perpusillus	53
Poa retroflexa	10
Poa procumbens	11
Primula farinosa	14
Primula officinalis	15
Primula acaulis	16
Pulmonaria maritima	18
Ranunculus arvensis	36
Ranunculus Flammula	37
Salix monandra	71
Salix triandra	72
Salvia verbenaca	1
Saxifraga Hirculus	26
Saxifraga oppositifolia	27
Scilla autumnalis	25
Sisymbrium Nasturtium	44
Stellaria uliginosa	28
Thlaspi arvense	43
Trifolium scabrum	48
Trifolium arvense	50
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# INDEX III.

English Names of the Plants in the sixth Fasciculus, arranged Alphabetically.

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Bastard-Balm	39
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Bird's-eye	14
Bird's-foot common	53
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Brome-grass diandrous	5
Calamint field	40
Carex turgid	68
Caucalis hedge	22
Caucalis corn	23
Cistus spotted-flowered	33
Clover yellow	49
Corn-marygold	60
Cow-parsley small	24
Cowslip	15
Cranes-bill jagged	45
Cranes-bill small-flowered	46
Crowfoot corn	36
Dandelion deficient	59
Everlasting-Pea narrow-leaved	52
Fescue-grass meadow	7
Fescue-grass tall	8
Fescue-grass darnel	9
Fumitory ramping	47
Galeopsis particoloured	38
Goosefoot nettle-leaved	20
Goosefoot small-seeded	21
Hair-grass silver	6
Hawkweed bushy	58
Hellebore green	34
Horned-Poppy red	32
Lathyrus crimson	51
Lobelia acrid	63
Lung-wort sea	18
Melic-grass mountain	4
Meadow-grass reflexed	10
Meadow-grass procumbent	11
Mouse-Ear Chickweed corn	29
Mouse-Ear Chickweed dwarf	30
Mouse-Ear Chickweed tetrandrous	31
Nettle great	69
Nettle small	70
Ophrys man	66
Ophrys green-winged	67
Orchis great	64
Orchis butterfly	65
Peloria	41
Penny-cress	43
Penny-wort marsh	19
Primrose	16
Rock-cress	42
Sage or Clary wild	1
Saxifrage marsh	26
Saxifrage purple	27
Spearwort small	37
Speedwell trifid	2
Squill autumnal	25
Stichwort bog	28
Thistle prickliest	54
Thistle slender-flowered	55
Thistle marsh	56
Thistle cursed	57
Thornapple	17
Trefoil rough	48
Trefoil haresfoot	50
Valerian wild	3
Water-cress	44
Willow bitter	71
Willow three-threaded	72
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# INDEX,

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Agaricus carnosus . . . . .	213	Galeopsis vericolor . . . . .	115	Primula acaulis . . . . .	51
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Agaricus procerus . . . . .	211	Geranium dissectum . . . . .	142	Primula officinalis . . . . .	52
Agaricus velutipes . . . . .	212	Geranium parviflorum . . . . .	141	Prunella vulgaris . . . . .	118
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# CISTUS HELIANTHEMUM. DWARF CISTUS.

CISTUS *Lin. Gen. Pl.* POLYANDRIA MONOGYNIA.

*Cor.* 5-petala. *Cal.* 5-phyllus; foliolis duobus minoribus. *Capsula.*

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CISTUS *Helianthemum* suffruticosus procumbens, stipulis lanceolatis, foliis oblongis revolutis subpilosis. *Lin. Syst. Vegetab. Sp. Pl.* 744. *Fl. Succ. n.* 472.

CISTUS foliis conjugatis, ellipticis, hirsutis, integerrimis, petiolis unifloris, subhirsutis. *Hall. Hist.* 1033.

CISTUS *Helianthemum.* *Scopoli Fl. Carn. n.* 649.

CHAMÆ CISTUS vulgaris flore luteo. *Bauh. p.* 465.

HELIANTHEMUM Anglicum luteum. *Ger. em.* 1282.

HELIANTHEMUM vulgare. *Parkins.* 656. *Raii Syn. p.* 341. Dwarf Cistus, or little Sun-Flower. *Hudson Fl. Angl. ed. 2. p.* 233. *Lightfoot Fl. Scot. p.* 281. *Oeder Fl. Dan.* 101.

RADIX perennis, sublignosa, fusca.

CAULES plurimi, suffruticosi, procumbentes, teretes, inferne glabri, superne hirsutuli, sæpius rubicundi.

FOLIA opposita, brevissime petiolata, oblongo-ovata, acutiuscula, marginibus subrevolutis, superne saturate viridia, scabriuscula, subpilosa, pilis furcatis, inferne subtomentosa, *fig. 1.*

STIPULÆ quaternæ, lanceolatæ, pilosæ.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis tribus superioribus ovatis, obtusiusculis, membranaceis, subdiaphanis, æqualibus, concavis, trinerviis, nervis coloratis, hirsutulis, duobus inferioribus minimis, lateralibus hirsutis, *fig. 2, 3.*

COROLLA; PETALA quinque obcordata, flava, marginem exteriore crenulata, *fig. 4.*

STAMINA: FILAMENTA numerosa, capillaria, flava, receptaculo supra calycem inserta. ANTHERÆ subrotundæ, parvæ, flavæ, *fig. 5.*

PISTILLUM: GERMEN subrotundum. STYLUS longitudine staminum, superne crassior, inferne sæpius curvatus. STIGMA capitatum, planum, *fig. 6.*

PERICARPIUM: CAPSULA subrotunda, calyce tecta, unilocularis, trivalvis, *fig. 7.*

SEMINA plurima, majuscula, ovato-acuta, rufa, *fig. 8.*

ROOT perennial, somewhat woody and brown.

STALKS numerous, somewhat shrubby, procumbent, round, below smooth, above slightly hairy, most commonly reddish.

LEAVES opposite, standing on very short foot-stalks, of an oblong ovate shape, somewhat pointed, the edges slightly rolled back, on the upper side of a deep green colour, roughish, and somewhat hairy, the hairs forked, on the under side a little downy, *fig. 1.*

STIPULÆ growing four together, lanceolate, and hairy.

CALYX: a PERIANTHIUM of five leaves and permanent, the three uppermost ones ovate, bluntish, membranous, somewhat transparent, equal, concave, three-ribbed, the ribs coloured and hairy, the two lowermost very small, lateral, and hairy, *fig. 2, 3.*

COROLLA: five PETALS inversely heart-shaped, of a yellow colour, the outer edge slightly notched, *fig. 4.*

STAMINA: FILAMENTS numerous, capillary, yellow, inserted into the receptacle above the calyx. ANTHERÆ roundish, small, and yellow, *fig. 5.*

PISTILLUM: GERMEN roundish. STYLE the length of the stamina, thicker in its upper part, and crooked below. STIGMA forming a little flat head, *fig. 6.*

SEED-VESEL: a roundish CAPSULE, covered with the calyx, of one cavity and three valves, *fig. 7.*

SEEDS numerous, rather large, ovate, pointed, and of a reddish brown colour, *fig. 8.*

Most of the plants of the Cistus tribe are highly esteemed for their beauty, and generally cultivated in the gardens of the curious. Though our present species cannot vie with many of those which are the produce of warmer climates, yet it is one of the most ornamental of our native plants, and admirably well calculated to decorate a rock or dry bank, especially if its several varieties with white, rose, and lemon-coloured flowers be intermixed. The particular merit of this plant is, that it is hardy, easily propagated, either by seeds or cuttings, and continues for the greatest part of the summer to put forth daily a multitude of new blossoms.

Mr. LAWSON is said by Mr. RAY to have found it producing white flowers. I have myself observed a wild variety with pale yellow blossoms. A variety with double flowers is mentioned by HALLER, which, if it could be procured, would be a valuable acquisition to our gardens. LINNÆUS has remarked, that the petals sometimes have an orange-coloured spot at their base; and the leaves have been observed to vary much in breadth.

In chalky soils the *Cistus Helianthemum* is extremely common; but as that does not abound in the neighbourhood of London, it is consequently scarce with us.

On a close examination of the hairs on the leaves we discovered them to be forked; a character which may, perhaps, contribute to distinguish it from the *polifolia*, to which it seems very nearly related.

It flowers from June to August.





*Cistus*

*Helianthemum*















# SCHROPHULARIA AQUATICA. WATER-FIGWORT, or WATER-BETONY.

SCHROPHULARIA *Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

*Cal. quinquefidus. Cor. subglobosa, resupinata. Caps. bilocularis.*

*Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.*

SCHROPHULARIA *aquatica* foliis cordatis obtusis petiolatis decurrentibus, caule membranis angulato racemis terminalibus, *Lin. Syst. Vegetab. p. 468. Sp. Pl. p. 864.*

SCHROPHULARIA *caule alato quadrangulo paniculato, foliis ovato lanceolatis. Hall. Hist. 326.*

SCHROPHULARIA *aquatica. Scopoli Fl. Carn. n. 776.*

SCHROPHULARIA *aquatica major. Baub. Pin. 235.*

BETONICA *aquatica. Ger. emac. 715.*

BETONICA *aquatica major. Parkinson. 613. Raii Syn. 283. Water-Betony, but more truly Water-Figwort. Hudson Fl. Angl. p. 275. Lightfoot Fl. Scot. p. 329.*

RADIX perennis, crassa, fibris numerosis, majusculis, longis, albis, donata.

CAULIS tripedalis, ad orgyalem, erectus, ramosus, laevis, quadrangularis, purpureus, angulis alatis; rami folioli, cauli similes.

FOLIA petiolata, opposita, distantia, decurrentia, subconnata, cordato-oblonga, subinde appendiculata, obtusa, venosa, crenata, nuda.

FLORES paniculato-spicati, terminales.

RAMI paniculae oppositi, trichotomi, bracteâ lanceolata suffulti, pedunculis lateralibus, multifloris, bracteatis, subviscidis, intermedio solitario.

CALYX: PERIANTHIUM monophyllum, quinquefidum, persistens, laciniis corollâ brevioribus, rotundatis, membranâ fusca lacerâ marginatis, fig. 1.

COROLLA monopetala, inaequalis, atro-rubens. *Tubus* globosus, magnus, inflatus, fig. 2. *Limbus* quinquepartitus, laciniis duabus majoribus suberectis, rotundatis, fig. 3. cum intermedia squamula labrum parvum mentiente subjecta, fig. 4. duabus lateralibus patulis, fig. 5. tertia minima subinvoluta, fig. 6.

STAMINA: FILAMENTA quatuor, alba, linearia, subviscida, declinata, longitudine corollæ, quorum duo seriora. ANTHERÆ didymæ, flavæ, fig. 7, 8.

PISTILLUM: GERMEN subconicum, glandula nectarifera cinctum, fig. 9, 10. STYLUS subulatus, apice subincurvatus, fig. 11. STIGMA obtusum, flavum, fig. 12.

PERICARPIUM: CAPSULA subrotunda, acuminata, bilocularis, bivalvis, dissepimento e marginibus valvularum inflexis constructo, apice dehiscens, fig. 13.

SEMINA plurima parva, fusca.

RECEPTACULUM unum, subrotundum in utrumque loculamentum se insinuans.

ROOT perennial, thick, furnished with numerous, large, long, white fibres.

STALK from three to six feet in height, upright, branched, smooth, four-cornered, purple, the angles winged, branches leafy, like the stalk.

LEAVES standing on foot-stalks, opposite, remote from each other, uniting in some degree at the base, current, oblong heart-shaped, having sometimes little appendages, obtuse, veiny, crenated, and smooth.

FLOWERS terminal, growing in a panicle-like spike.

BRANCHES of the panicle opposite, trichotomous, supported by a pointed floral-leaf, flower-stalks lateral, many-flowered, furnished with floral leaves, somewhat viscid, the middle one solitary.

CALYX: a PERIANTHIUM of one leaf, divided into five segments and permanent, the segments shorter than the corolla, round and edged with a ragged brown membrane. fig. 1.

COROLLA monopetalous, unequal, of a deep red colour. *Tube* globular, large inflated. fig. 2. *Limb* deeply divided into five segments, the two uppermost of which are largest, somewhat upright, and rounded, fig. 3. with an intermediate little scale like a small lip placed underneath them, fig. 4. the two side ones spreading, fig. 5. the third very minute and rolled up, fig. 6.

STAMINA: four white, linear, slightly viscid FILAMENTS, inclining downwards, the length of the corolla, two of which are later than the others. ANTHERÆ double and yellow, fig. 7, 8.

PISTILLUM: GERMEN somewhat conical, supported by a nectareous gland, fig. 9, 10. STYLE tapering, bending downwards a little at the top, fig. 11. STIGMA blunt and yellow, fig. 12.

SEED-VESSEL a roundish pointed CAPSULE, of two cavities and two valves, partition formed by the edges of the valves turning in, opening at top.

SEEDS numerous, small, and brown.

RECEPTACLE single, roundish, insinuating itself into each cavity or cell.

The name of *Water-Betony* (by which this plant is, perhaps, more generally better known than by its other name of *Water-Figwort*) has been assigned it from the great similitude which its leaves bear to those of the *Wood-Betony*; but as it differs from it totally in its fructification, and consequently in its generic character, the latter name is certainly to be preferred.

In its usual state of growth it has little to recommend it as an ornamental plant; but when variegated, few exceed it in beauty. In this state it is not uncommon in the nurseries about *London*.

It grows naturally by the sides of rivers, ponds, and wet ditches; and flowers from *June* to *September*.

Medicinally the leaves of this species are recommended for the same purposes of those of the *Scrophularia nodosa*, to which they have by some been preferred: in taste and smell they are similar, but weaker. Mr. MARCHANT reports, in the *Memoires* of the French Academy, that this plant is the same with the *Iquetiaia* of the Brazilians, celebrated as a specific corrector of the ill flavour of *Sena*. On his authority the *Edinburgh* College, in their common infusion of that drug, directed two-thirds its weight of the *Water-figwort* leaves to be joined; but as they have now discarded this ingredient, we may presume that it was not found to be of much use. *Lewis's Mat. Med. Ed. Aikin, p. 598.*

The disagreeable smell which attends this plant when bruised makes it rejected by cattle in general; nevertheless, both its leaves and flowers are much resorted to by different kinds of insects. The *Tenthredo Schrophulariæ* *Lin.* feeds on its foliage, both in its caterpillar and perfect state. The beautiful caterpillar of the *Phalena Verbasci* feeds on this plant as well as on the *Mullein*. Both bees and wasps collect great quantities of honey from its flowers, and as these continue to be produced for a great length of time, it is one of those plants which perhaps may be made to grow near bee-hives with advantage.



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# POTAMOGETON CRISPUM. CURLED PONDWEED, or GREATER WATER CALTROPS:

POTAMOGETON *Lin. Gen. Pl.* TETRANDRIA TETRAGYNIA.

*Cal.* 6. *Petala* 4. *Stylus* 6. *Sem.* 4.

*Raii Syn. Gen.* 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO  
POTIUS.

POTAMOGETON *crispum* foliis lanceolatis alternis oppositifve undulatis ferratis. *Lin. Syst. Vegetab.*  
p. 141. *Sp. Pl.* p. 183. *Fl. Suec.* n. 148.

POTAMOGETON. *Hall. Hist.* n. 848.

POTAMOGETON *crispum.* *Scopoli Fl. Carn.* n. 181.

POTAMOGETON foliis crispis seu lactuca ranarum, *Bauh.* p. 465.

POTAMOGETON seu fontinalis crispa. *I. B.* III. p. 778.

TRIBULUS aquaticus minor Quercus floribus. *Ger. em.* 1282.

TRIBULUS aquaticus minor prior. *Park.* 1248. *Raii Syn.* p. 149. The greater Water Caltrops.  
*Hudson Fl. Angl.* p. 75. *Lightfoot Fl. Scot.* p. 122.

RADIX perennis, repens.

CAULES plurimi, variae longitudinis, fordide carnei,  
subdiaphani, compressi, utrinque sulcati, ramosi.

VAGINÆ breves, concolores, vix distinguendæ.

FOLIA sessilia, lanceolata, obtusa, subdiaphana, crispa,  
scariofa, nitida, trinervia, ferrulata, inferiori-  
bus alternis, superioribus oppositis.

PEDUNCULI axillares, bi seu triunciales, crassiusculi,  
subcompressi.

FLORES spicati, sex five octo, sessiles.

CALYX nullus.

COROLLA: PETALA quatuor, subrotunda, obtusa,  
concava, unguiculata, primo erecta, dein pa-  
tentia, decidua, e fusco viridia, *fig. 1.*

STAMINA: FILAMENTA quatuor, brevissima, vix dis-  
tinguenda. ANTHERÆ breves, didymæ, albæ,  
*fig. 2.*

PISTILLUM: GERMINA quatuor, ovato-acuminata.  
STYLUS nullus. STIGMATA obtusa, *fig. 3.*

SEMINA quatuor, nuda, majuscula, fordide virentia,  
utrinque compressa, externe ad basin denticu-  
lata, *fig. 4.*

ROOT perennial and creeping.

STALKS numerous, of various lengths, of a dirty flesh-  
colour, somewhat transparent, flattened, with  
a groove on each side, and branched.

SHEATHS short, of the same colour as the stalks,  
scarcely to be distinguished.

LEAVES sessile, lanceolate, obtuse, somewhat transpa-  
rent, curled, sonorous to the touch, shining,  
three-ribbed, sharply and finely serrated; the  
lower ones alternate, the upper ones opposite.

GENERAL FLOWER-STALKS growing from the  
axæ of the leaves, two or three inches in  
length, thickish, and somewhat flattened.

FLOWERS six or eight, growing in a spike, and sessile.  
CALYX wanting.

COROLLA: four PETALS, roundish, obtuse, hollow,  
connected by a little claw, at first upright,  
afterwards spreading and deciduous, of a  
greenish brown colour, *fig. 1.*

STAMINA: four FILAMENTS, very short, scarcely to  
be distinguished. ANTHERÆ short, having  
two separate lobes, of a white colour, *fig. 2.*

PISTILLUM: GERMINA four, ovate, with a long point.  
STYLE none. STIGMATA obtuse, *fig. 3.*

SEEDS four, naked, rather large, of a dirty green, flat-  
tened on each side, toothed externally at the  
base, *fig. 4.*

Most of the plants of this *genus* have creeping roots, which penetrating easily through the mud, cause them to spread very fast, so as soon to fill up a pond or slow river, if unmolested.

We have observed, that ducks very readily eat not only the seeds, but the leaves of the present species, which is one of the most common. The introduction of water-fowl may therefore probably prevent this species at least, and perhaps some of the others, from increasing too much.

It flowers in *June* and *July*.





*Potamogeton crispum*













*Sagina apetala.*



# SAGINA APETALA. ANNUAL PEARL-WORT.

SAGINA *Lin. Gen. Pl.* TETRANDRIA TETRAGYNIA.

*Cal.* 4-phyllus. *Petala* 4. *Capf.* 1-locularis, 4-valvis, polysperma.

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAGINA *apetala* radice annua, caule erectiusculo pubescente.

SAGINA *apetala* caule erectiusculo pubescente, floribus alternis apetalis. *Lin. Mantiff.* 559. *Syst. Vegetab.* p. 142.

SAGINA caulibus erectis, radice annua, floribus apetalis. *Ard Spec.* 2. p. 22. t. 8. fig. 1.

SAXIFRAGA Anglica Alfinefolia annua. *D. Plot Hist. Nat. Oxf.* c. 6. § 9. t. 9. f. 7. *Raii Syn.* p. 345. Annual Pearl wort.

ALSINE Saxifraga graminifolia, flosculis tetrapetalis herbidis et muscosis. *Pluk. Alm.* t. 74. f. 2.

SAGINA procumbens var. β. *Hudson Fl. Angl. ed.* 2. p. 73.

RADIX annua, fibrosa.

CAULES plures, primo procumbentes, demum erecti, unciales, triunciales et ultra, teretes, filiformes, hispiduli, nodosi.

FOLIA opposita, lineari-subulata, brevia, mucronata, hispidula.

FLORES alterni, pedunculati.

PEDUNCULI apice primo nutantes, demum erecti, pilis raris vestiti.

CALYX: PERIANTHIUM tetraphyllum subinde pentaphyllum, foliolis ovatis, obtusis, concavis, lævibus, persistentibus, marginibus purpurascens, fig. 1.

COROLLA: PETALA plerumque quatuor, minutissima, nudo oculo vix conspicua, alba, obcordata, fig. 2.

STAMINA: FILAMENTA quatuor alba, calyce breviora. ANTHERÆ albæ, fig. 3.

PISTILLUM et Capsula ut in Sagina procumbente.

ROOT annual and fibrous.

STALKS several, at first procumbent, afterwards upright, from one to three inches or more in height, round, filiform, somewhat hispid, and jointed.

LEAVES opposite, linear, and somewhat awl-shaped, short, terminated by a fine point, and somewhat hispid.

FLOWERS alternate, and standing on foot-stalks.

FLOWER-STALKS first drooping at top, finally upright, covered with a few hairs.

CALYX: a PERIANTHIUM of four, sometimes five, ovate, obtuse, hollow, smooth, permanent leaves, with purplish edges, fig. 1.

COROLLA: generally composed of four PETALS, which are extremely small, and scarcely visible to the naked eye, white and inversely heart-shaped, fig. 2.

STAMINA: four white FILAMENTS, shorter than the calyx. ANTHERÆ white, fig. 3.

PISTILLUM and Capsule as in the procumbent Pearl-wort.

Mr. RAY, in his Synopsis, considers this species as distinct from the *procumbens*; and informs us, that it differs from it not only in the colour of its stalks and leaves, which are of a browner hue, but that it has an annual root; and that it does not put forth roots at the joints as the *procumbens* does, he refers to a figure given of it by PLOT in his Natural History of Oxfordshire.

Notwithstanding RAY's description, and PLOT's figure, LINNÆUS, in his *Spec. Plant.* considered it only as a variety of the *procumbens*; but afterwards, more fully convinced by the description and figure given of this plant by ARDUINI, an Italian Botanist, he adopts it in his second *Mantissa* as a species. It appears, by Mr. HUDSON's quotations, that he has been no stranger to the observations of these authors; but, in opposition to them all, he continues it only as a variety.

From a thorough conviction of the propriety of Mr. RAY's conduct in making it a species, we have given a separate figure of it, and shall not only confirm his account, but give a few additional remarks of our own, which we presume may finally settle this matter.

The distinction of an annual and perennial root, though it cannot be admitted, perhaps, in all cases as a specific character, must be allowed to have considerable weight. To ascertain the constancy of this character we have for several years cultivated the two plants close together, on a wall with partitions containing earth; the result has been that the *apetala* has proved as regular an annual as the *Draba verna*, while the *procumbens* has continued green through the winter; and we have no doubt but this always is the case with these plants, when they grow in their natural situations.

The *procumbens* is always procumbent; and when it grows, as it most commonly does, in moist situations, it mats and spreads on the ground. The stalks of the *apetala*, when the plant is young, spread on the ground; but as it advances to maturity they rise up, and, if several grow together, become quite erect. Where the plants grow singly, and in a dry situation, they neither acquire the same height, nor the same degree of uprightness. Sometimes this species is found on moist shady walls, much taller and more branched than the specimens we have figured; but whether the plants of the *apetala* be small or large, their stalks and leaves are always hairy; while in the *procumbens* they are perfectly smooth, the hairs are visible to the naked eye, and when magnified have no little globules at their extremities, as those of the *Spergula saginoides* have, which comes very near in its appearance to the Pearl-wort: thus we find these three difficult plants may, with certainty, be distinguished by their stalks alone.

The *apetala* is a smaller plant than the *procumbens*, and much finer in its stalks. Its leaves are also shorter by almost one-half, and less succulent; and these, so far we have observed, are the chief differences.

From its name one would be led to suppose, that it was perfectly apetalous; and both LINNÆUS and ARDUINI describe it as such. We have generally found it with petals; but so minute, indeed, as almost to require a magnifier to render them visible. These petals we have given a magnified view of, and have represented the plant in the several states in which it is found in dry situations.

Mr. RAY does not appear to have had an idea of its being a common plant, as he mentions the particular spots where it was to be found: with us there is no plant more abundant, especially on walls, in gravel walks, where it is a troublesome weed, and on barren heaths.

It flowers in May and June. There is, perhaps, scarce any plant that is quicker in ripening its seeds.

In our examination of this plant we found the egg of a very small moth glued to an unripe capsule, the seeds of which were probably destined to feed its caterpillar.











# SISYMBRIUM TERRESTRE. ANNUAL WATER-RADISH.

SISYMBRIUM *Lin. Gen. Pl.* TETRADYNAMIA SILIQUOSA.

*Siliqua* dehiscens, valvulis rectiusculis. *Cal.* patens. *Corolla* patens.

*Raii Syn. Gen.* HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SISYMBRIUM *terrestre* radice annua, foliis pinnatifidis dentato-ferratis, siliquis fecundis.

RADIX annua, fibrosa, albida.

CAULIS pedalis, sesquipedalis, et ultra, plerumque erectus, ramosus, fulcatus, laevis, viridis, seu purpurascens.

FOLIA omnia pinnatifida, Erysimi officinalis quodammodo similia, laevia, pinnis trium, quatuor, five sex parium, cum impari, omnibus inaequaliter dentato ferratis, extima praesertim in inferioribus foliis rotundata; caulina semiamplexicaulia.

FLORES minimi, lutei, semper fecundi.

CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, obtusis, concavis, subrectis, flavescentibus. *fig. 1. auct.*

COROLLA; PETALA quatuor, lutea, saepius emarginata, vix longitudine calycis. *fig. 2.*

STAMINA: FILAMENTA sex, subaequalia, longitudine pistilli, flavescentia. ANTHERÆ luteæ, incumbentes. *fig. 3.*

PISTILLUM: GERMEN oblongum. STYLUS brevissimus. STIGMA capitatum, villosum. *fig. 4.*

PERICARPIUM: SILIQUA teres, longitudine pedunculi, sursum subarcuata, seminibus plurimis haud æqualiter protuberantibus turgida. *fig. 5, 6.*

SEMINA minima, fusca, *fig. 7.*

ROOT annual, fibrous and whitish.

STALK a foot, a foot and a half, or more, in height, generally upright, branched, grooved, smooth, of a green or purplish colour.

LEAVES, all of them pinnatifid, somewhat like those of Hedge-mustard, smooth, the pinnæ consist of three, four, or six pair, with an odd one, all of them unequally indented, the outermost especially in the bottom leaves roundish, those of the stalk partly amplexicaule.

FLOWERS very small, yellow, and always producing seed.

CALYX: a PERIANTHIUM of four leaves, which are ovate, obtuse, hollow, nearly upright, and yellowish. *fig. 1. magn.*

COROLLA: four PETALS, of a yellow colour, generally nicked at the end, scarcely the length of the calyx. *fig. 2.*

STAMINA: six FILAMENTS, nearly equal, the length of the pistillum, of a yellowish colour. ANTHERÆ yellow and incumbent. *fig. 3.*

PISTILLUM: GERMEN oblong. STYLE very short. STIGMA forming a little head and villous. *fig. 4.*

SEED-VESSEL a round Pod, the length of the flower-stalk, somewhat curved upward, turgid with numerous seeds which protuberate unequally. *fig. 5, 6.*

SEEDS very small and brown. *fig. 7.*

We have taken the name of *terrestre*, which LINNÆUS applies to the third variety of his *Sisymbrium amphibium*, not so much from the certainty of its being the plant he intends, as from the propriety of its application to this species, it being generally found in dryer situations than the true *amphibium*.

Repeated observation and culture have thoroughly satisfied us that the present plant is a species perfectly distinct from the *amphibium*; and we ground our authority for considering it as such on the following circumstances.

1st, It is an annual, whereas the *amphibium* is not only a perennial, but has a creeping root.

2dly, It is a much smaller plant than the *amphibium*, seldom acquiring half its height.

3dly, It is seldom or never found in the water, unless accidentally overflown.

4thly, Its foliage is very different, the radical leaves much resembling those of the *Erysimum officinale*.

And, lastly, its seed-vessels are always turgid, and full of seeds, while those of the *amphibium* are usually abortive.

As we can find no satisfactory account of this plant either in RAY, HUDSON, LINNÆUS, HALLER, or the numerous authors we have consulted, we have omitted all synonyms, and contented ourselves with giving it a new specific character, chiefly intended to contrast it with the *amphibium*.

In the course of our botanical researches we have had frequent occasion to remark, that our most common plants are the least known; we seek with avidity such as are rare and with difficulty acquired, and neglect those that we daily tread under foot. The present plant affords an instance of this inattention, as it is a very common one in the environs of London, and found in the same situations as the *Rumex maritimus*, on the edges of wet ditches, and on ground apt to be occasionally overflown. We have observed it in *Tothill-Fields*, on the edge of a ditch by the roadside leading from the *Magdalen Hospital* to *Lambeth Marsh*, and in our garden it comes up spontaneously as a common weed.

When this plant grows by itself, in a situation tolerably dry, it grows quite erect, and quickly produces a considerable quantity of seeds. Should it happen to be overflown, which is frequently the case, it is then more procumbent, and will sometimes take root at the joints, in which state it appears to be the *Sisymbrium palustre repens parvo flore* of VAILLANT, at least it accords in part.

This species of *Sisymbrium* flowers in June, July, August, and September.

It has a similar taste to most of the plants of the cress kind, but is not very pungent.





*Sisymbrium terrestris*













*Lysimachia vulgaris.*



# LYSIMACHIA VULGARIS. YELLOW LOOSE-STRIFE.

LYSIMACHIA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

*Cor.* rotata. *Caps.* globosa, mucronata, decemvalvis.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

LYSIMACHIA *vulgaris* paniculata, racemis terminalibus. *Lin. Syst. Vegetab.* p. 165. *Sp. Pl.* p. 209. *Fl. Suecic.* n. 175.

LYSIMACHIA foliis ovato-lanceolatis, spicis paniculatis. *Hall. Hist.* 630.

LYSIMACHIA *vulgaris.* *Scopoli Fl. Carn.* n. 214.

LYSIMACHIA lutea. *I. B.* II. 901. *Ger. emac.* 474.

LYSIMACHIA lutea major quæ Dioscoridis. *Baub. Pin.* 245.

LYSIMACHIA lutea major vulgaris. *Park.* 544. Yellow Willow-herb or Loose strife. *Raii Syn.* 282. *Hudson Fl. Angl.* ed. 2. p. 86. *Lightfoot Fl. Scot.* p. 138.

RADIX perennis, repens.

CAULIS tripedalis et ultra, erectus, ubi folia bina obtuse tetragonis, ubi terna fulcatus, seu angulosus, angulis obtusis; superne hirsutus, inferne glaber, ramosus, ad genicula paululum incrassatus.

FOLIA bina, seu terna, quaterna et quina etiam observavi, sessilia, ovato-lanceolata, integra, margine inæquali, venosa, nuda.

FLORES paniculati, lutei, racemis terminalibus ex alis foliorum.

PEDUNCULI uniflori, subviscidi, apice incrassati.

CALYX: PERIANTHIUM monophyllum, quinquepartitum, acutum, erectum, persistens, laciniis striatis, rubro marginatis, apicibus ante et post florescentiam tortuosis. *fig. 1.*

COROLLA monopetala, rotata. *Limbus* quinquepartitus, laciniis ovatis, acutis. *fig. 2.*

STAMINA: FILAMENTA quinque, inæqualia, corolla breviora, subulata, compressa, viscosa, basi connata. ANTHERÆ incumbentes, subsagittatae. *fig. 3.*

PISTILLUM: GERMEN subrotundum. STYLUS filiformis, longitudine staminum, peractâ florescentiâ elongatus. STIGMA obtusum. *fig. 4.*

PERICARPIUM: CAPSULA globosa, unilocularis, decemvalvis.

SEMINA plurima, minima.

RECEPTACULUM globosum, maximum.

ROOT perennial and creeping.

STALK three feet or more in height, when the leaves grow in pairs, obtusely four-cornered; when three together, grooved or angular, angles obtuse, the upper part of the stalk slightly hairy, the lower smooth, branched, and a little thickened at the joints.

LEAVES growing in pairs, or three together, I have even noticed them growing four or five together, sessile, ovate and pointed, entire but not perfectly even on the edges, veiny and destitute of hairs.

FLOWERS yellow, forming a panicle, flower-branches terminal, growing from the axæ of the leaves.

FLOWER-STALKS single-flowered, somewhat viscid, and thickened at the extremity.

CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, pointed, upright, and permanent, the segments striated, and edged with red, the tips both before and after flowering twisted. *fig. 1.*

COROLLA monopetalous, wheel-shaped. *Limb* deeply divided into five segments, which are ovate and pointed. *fig. 2.*

STAMINA: five FILAMENTS, unequal, shorter than the corolla, tapering, flattened, viscid, growing together at bottom. ANTHERÆ incumbent, somewhat arrow-shaped. *fig. 3.*

PISTILLUM: GERMEN roundish. STYLE filiform, the length of the stamina, lengthened out as the flowers go off. STIGMA blunt. *fig. 4.*

SEED-VESSEL a globular capsule of one cavity, and ten valves.

SEEDS numerous, very minute.

RECEPTACLE globular, and very large.

Some of the ancient writers attributed a very singular property to this plant; no less than a power of taming ferocious, and reconciling discordant animals; and hence they derive its name of *Lysimachia* \*. Others attribute the origin of its name to the learned and brave LYSIMACHUS, who, they say, was its first discoverer: however this be, our English name of *Loose-strife* appears evidently to be founded on the power thus idly ascribed to it.

This herb, though not so common as its name seems to imply, is tolerably frequent about *London*, in moist meadows, and by water-sides, especially in the environs of the *Thames*.

It varies much in the number of the leaves at the joints; and consequently in the angular appearance of its stalk. The twisted tips of the Calyx, though very remarkable, do not appear to have been noticed by authors.

Such as wish to ornament the edge of a river, or piece of water, cannot select a more proper plant; but its beautiful effect will be heightened by planting with it the *Lythrum Salicaria*; both of these have strong perennial roots, and will also readily grow in gardens where the soil is moist.

It flowers in *July* and *August*.

Some ascribe to it the power of dying green.

\* A pugna dirimenda for λύσις τῆς μάχης est certamen dirimere, of taking away strife or debate between beasts, not only those that are yoked together, but even those that are wild also, by making them tame and quiet, which, as they say, this herb will do, if it be either put about their yokes or their necks, which how true I leave to them who shall try and find it so. *Parkins.* p. 544.











# ANTIRRHINUM MINUS. THE LEAST TOAD-FLAX.

ANTIRRHINUM *Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

*Cal.* 5-phyllus. *Corollæ* basis deorsum prominens, nectarifera. *Capsula* 2-ocularis.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCIO SINGULARI FLORE MONOPETALO.

ANTIRRHINUM *minus* foliis plerisque alternis lanceolatis obtusis, caule ramosissimo diffuso. *Lin. Syst. Vegetab.* p. 466. *Sp. Pl.* p. 852. *Fl. Suec.* p. 502.

ANTIRRHINUM viscidum foliis inferioribus conjugatis ellipticis obtusis hirsutis, calcare dimidii floris longitudine. *Haller. Hist. n.* 335.

ANTIRRHINUM *minus.* *Scopoli Fl. Carn. n.* 769.

ANTIRRHINUM arvense minus. *Baub. pin.* 212.

ANTIRRHINUM minimum repens. *Ger. emac.* 549.

ANTIRRHINUM sylvestre minimum. *Parkins.* 1334.

LINARIA Antirrhinum dicta. *Raii Syn. p.* \*283. The least Calf's Snout or Snap-dragon. *Hudson. Fl. Angl. ed. 2. p.* 272. *Oeder. Fl. Dan. t.* 532.

RADIX annua, simplex, fibrosa.

CAULIS erectus, spithamæus, seu dodrantalis, ad basin usque ramosus, teres, ramis inferioribus oppositis, superioribus alternis.

FOLIA ut ut tota planta villosa, subviscosa, inferiora opposita, patentia, subspatulata, superiora alternata, recurvata, lineari-lanceolata, obtusa.

FLORES parvi, solitarii, alterni, pedunculati, pedunculis erectis.

CALYX: PERIANTHIUM quinque-partitum, persistens, laciniis linearibus, subæqualibus; corolla brevioribus, *fig. 1.*

COROLLA monopetala, tubus superne purpureus, inferne maculis duabus parallelis, purpureis notatus, calcar brevissimum subulatum purpurascens, labium superius bifidum, inferne albidum, inferius trifidum, album; palatum villosum, flavescens, *fig. 2.*

STAMINA: FILAMENTA quatuor, alba. ANTHERÆ nigricantes. POLLEN album.

PISTILLUM: GERMEN subovatum, viscidum, rufescens. STYLUS filiformis, superne purpureus. STIGMA simplex, album.

PERICARPIUM: CAPSULA ovata, apice dehiscens.

ROOT annual, simple, and fibrous.

STALK upright, from five to nine inches in height, branched down to the bottom, round, the lowermost branches opposite, the uppermost alternate.

LEAVES as well as the whole plant villous, and somewhat viscid, the lower ones opposite, spreading, somewhat spatula-shaped, the upper ones alternate, bent back, betwixt linear and lanceolate, the extremity obtuse.

FLOWERS small, solitary, alternate, standing on upright foot-stalks.

CALYX: a PERIANTHIUM deeply divided into five segments, which are linear, nearly equal, shorter than the corolla and permanent, *fig. 1.*

COROLLA monopetalous, the tube on the upper side purple, underneath marked with two parallel purple spots, spur very short and tapering, of a purplish colour, the upper lip bifid, on the under side whitish, the lower trifid and white, the palate villous and yellowish, *fig. 2.*

STAMINA: four white FILAMENTS. ANTHERÆ blackish. POLLEN white.

PISTILLUM: GERMEN somewhat ovate, viscid, and of a reddish brown colour. STYLE filiform, on the upper part purplish. STIGMA simple and white.

SEED-VESSEL, an ovate CAPSULE opening at top.

Botanists have distinguished this species by the names of *minus* and *minimum*, as being the most diminutive of the genus. It may also be considered as one of the least ornamental.

It is chiefly found in corn fields, especially where the soil is sandy. We have occasionally noticed it in Battersea Fields with the *Orontium*; but in many parts of Kent it grows much more plentifully.

We know of no use to which it is applicable; and it is too diminutive a plant to do much harm where it is most abundant.

Introduced into the garden, it comes up annually without any care, nor is it easily lost.

It branches and spreads according to the luxuriance of the soil, and frequently grows to a much greater size than our figure represents.

It flowers from June to August.





*Antirrhinum minus*

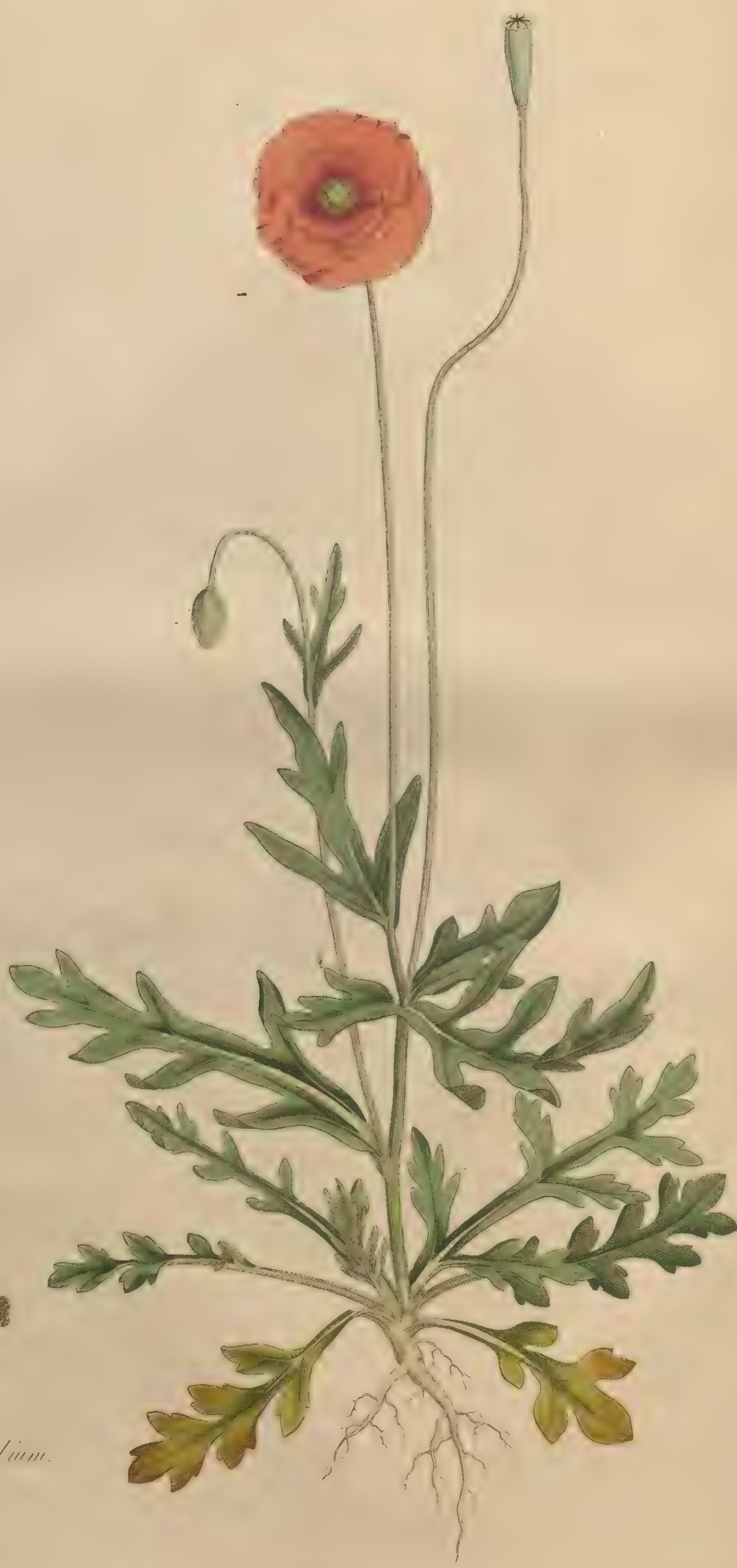












*Papaver dubium.*



# PAPAVER DUBIUM. LONG-SMOOTH-HEADED POPPY.

PAPAVER *Lin. Gen. Pl.* POLYANDRIA MONOGYNIA.

*Cor.* 4-petala. *Cal.* 2-phyllus. *Capsula* 1-locularis, sub stigmate persistente poris dehiscens.

*Raii Syn Gen.* 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

PAPAVER *dubium* capsulis oblongis glabris, caule multifloro setis adpressis, foliis pinnatifidis incis. *Lin. Syst. Vegetab.* p. 407. *Sp. Pl.* 726. *Fl. Suec. n.* 467.

PAPAVER foliis hispidis, pinnatis, pinnis lobatis, fructu ovato lævi. *Haller. Hist. n.* 1063.

PAPAVER erraticum capite longissimo glabro. *Tourn. Inst.* 238.

PAPAVER laciniato folio, capitulo longiore glabro, seu Argemone capitulo longiore glabro. *Mor. H. R. Bl. H. Ox. II.* 279. *S. III. t.* 14. *fig.* 11. *Raii Syn.* p. 309. Smooth-headed Bastard-Poppy. *Hudson. Fl. Angl.* p. 231. *Lightfoot Fl. Scot.* p. 280.

This plant, in its general appearance, is so very similar to the *Papaver Rhæas*, as often to be overlooked and mistaken for that species. Were the flowers white, as *JACQUIN* informs us they constantly are in Austria, the two plants would be much more obviously distinguished; but, fortunately, it has a few characters which always point it out to the attentive observer. These are principally drawn from the Capsules and Flower-stalks; the Capsules of the *Rhæas* are broad and short, somewhat resembling one-half of an egg cut transversely: those of the *dubium* are long and slender. Such is the general appearance of the two Capsules, which, however, are subject to considerable variation. In the *Rhæas*, the hairs on the Flower-stalk are strong, rigid, and spread horizontally; in the *dubium* they are finer, and pressed upward close to the stalk\*. On the young Flower-stalks they assume a shining, silvery-white appearance, which looks very beautiful. Below the Flower-stalks, on the other parts of the plant, the hairs spread out. In this last character we do not recollect to have ever been deceived. Besides these, which are the principal differences, the stalks and leaves of the *dubium* are much paler: the flowers are also much smaller, and less intensely red.

Culture produces no alteration in the constancy of its characters.

In Battersea Fields, where the soil is light, the *dubium* is nearly as common, and as much of a weed, as the *Rhæas*; nor is it unfrequent on walls, in the environs of the Metropolis; according to *Mr. LIGHTFOOT*, it is the most common species in North Britain.

In a corn field, betwixt Croydon and Shirley Common, we once noticed several specimens of this poppy with very large Capsules, which, if we mistake not, were diseased.

It flowers in June.

\* *JACQUIN*'s figure represents the hairs of the Flower-stalks reversed, and the leaves too finely divided.











# ERICA VULGARIS. COMMON HEATH.

ERICA *Lin. Gen. Pl.* OCTANDRIA MONOGYNIA.  
Cal. 4-phyllus. Cor. 4-fida. Filamenta receptaculo inserta. Antheræ bifidæ.  
Caps. 4-locularis.

*Raii Syn.* ARBORES ET FRUTICES.

ERICA *vulgaris* antheris aristatis, corollis campanulatis subæqualibus, calycibus duplicatis, foliis oppositis sagittatis. *Lin. Syst. Vegetab.* p. 301. *Sp. Pl.* p. 501. *Fl. Suec.* n. 336.

ERICA foliis imis adpressis simplicibus, floralibus calcaratis. *Haller. Hist.* n. p. 1012.

ERICA *vulgaris*. *Scopoli Fl. Carn.* n. 460.

ERICA *vulgaris* glabra. *Baub. Pin.* 485.

ERICA *vulgaris* seu *pumila*. *Ger. emac.* 1380.

ERICA *vulgaris*. *Parkin.* 1480. *Raii Syn.* 470. Common Heath or Ling. *Scot. Hather.* *Hudson.*  
*Fl. Angl. ed. 2.* p. 165. *Lightfoot Fl. Scot.* p. 204.

Fruticulus pedalis, bipedalis et ultra, valde ramosus, rami suberecti, teretes, pubescentes, rubicundi.	A small shrub, a foot or two in height, or more, very much branched, the branches mostly upright, round, downy, and reddish.
FOLIA opposita, circa ramulos in quatuor series imbricata, sessilia, sagittata.	LEAVES opposite, sessile and arrow-shaped, placed round the small branches in four rows.
FLORES purpurei, spicati, subsecundi.	FLOWERS purple, growing in a spike, mostly all one way.
PEDUNCULI brevissimi, longitudine foliorum.	FLOWER-STALKS very short, the length of the leaves.
CALYX: duplex, persistens, exterior brevissimus, tetraphyllus, foliolis ovatis, acutis, patentibus, e viridi purpurascens, ad lentem ciliatis, interior cum corolla concolor, tetraphyllus, foliolis ovato-lanceolatis, nitidis, corolla longioribus, demum inflexis, fig. 1, 2.	CALYX: double, and permanent, the outermost very short, composed of four leaves, which are ovate, pointed, spreading, partly green, and partly purple, when magnified hairy on the edges, the inner one the same colour as the corolla, composed of four somewhat lanceolate leaves, shining, longer than the corolla, finally bending inward, fig. 1, 2.
COROLLA monopetala, purpurea, quadripartita, corollâ brevior, inclusa, fig. 3.	COROLLA monopetalous, purple, deeply divided into four segments, shorter than the corolla, and inclosed within it, fig. 3.
STAMINA: FILAMENTA octo, alba. ANTHERÆ subcoadunatæ, aurantiacæ, bicornes, fig. 4, 5.	STAMINA: eight white FILAMENTS. ANTHERÆ somewhat united, orange-coloured, each furnished with two little horns, fig. 4, 5.
PISTILLUM: GERMEN villosum. STYLUS calyce longior, sursum curvatus. STIGMA quadrifidum, fig. 6.	PISTILLUM: GERMEN villous. STYLE longer than the calyx, bent upward. STIGMA quadrifid, fig. 6.

There is, perhaps, no tribe of plants whose flowers assume a greater variety of form than those of the present genus. Such as have had opportunities of examining many of the foreign heaths, must assent to the truth of this observation; and such as have not, need only consult the present species, and compare the dissections with those of the *Eri a cinerea*, and *Tetralix* already figured, to be perfectly convinced of it: so great indeed has this difference appeared to some botanists, that they have divided them into distinct genera.

Africa produces more heaths than the whole world besides. Next to Africa, Europe is the most productive; and almost every part of this quarter of the globe, especially the northern, abounds with this species. LINNÆUS remarks, in his *Flora Laponica*, that, in some of the districts through which he passed, scarce any plant was to be seen but the barren heath, which every where covered the ground, and could no ways be extirpated. The country people, he observes, had an idea that there were two plants which would finally overspread and destroy the whole earth, viz. Heath and Tobacco.

Exclusive of the animation which the blossoms of this species in particular impart to our dreary wastes at the close of summer, it answers many important purposes in natural as well as rural œconomy.

While its branches afford shelter to many of the feathered tribe, its seeds form a principal part of their food, especially those of the Grouse kind: and here we may remark a particular provision of nature in forming the seed-vessel, &c. in such a manner as to preserve the seeds a whole year, or longer, whence they have a constant supply. The foliage of this species affords nourishment to the caterpillar of the *Phalæna quercus Linnæi*, or great Egger Moth: we observed many instances of this in our northern tour. Bees are well known to collect largely from the blossoms of heath; but such honey is browner, coarser, and of less value than such as is collected where no heath grows. According to Linnæus's experiments, no kind of cattle appear to be fond of it. Horses and Oxen will eat it; Sheep and Goats sometimes eat, sometimes reject it. Cattle, not accustomed to browse on heath, give bloody milk; but are soon cured, by drinking plentifully of water. *Pennant's Tour*, p. 229.

Heath or Hather is applied to many œconomical purposes among the Highlanders: they frequently cover their houses with it instead of thatch, or else twist it into ropes, and bind down the thatch with them in a kind of lattice-work. In most of the western isles they dye their yarn of a yellow colour, by boiling it in water with the green tops and flowers of this plant. In Rum, Skye, and the Long Island, they frequently tan their leather in a strong decoction of it. Formerly the young tops are said to have been used alone to brew a kind of ale; and even now, I was informed, that the inhabitants of Isla and Jura still continue to brew a very potable liquor, by mixing two-thirds of the tops of Hather, and one-third of malt. This is not the only refreshment that Hather affords; the hardy Highlanders frequently make their beds with it, laying the roots downwards, and the tops upwards, which, though not quite so soft and luxurious as beds of down, are altogether as refreshing to those who sleep on them, and perhaps much more healthy. *Lightfoot Fl. Scot.* p. 205.

In most parts of Great Britain, Heath is in general use for making brooms; and for this purpose is usually cut when in blossom. The turf, with the Heath growing on it, is cut up, dried, and used for fuel by the poor cottager. It is also in use for heating ovens, for mending bad roads where better materials are wanting, and for making drains under-ground.

This species, as well as the others, is sometimes found with white blossoms, and a variety with hoary leaves is not uncommon, particularly on Bagshot Heath. Some authors have improperly considered this as the *Erica ciliaris* of LINNÆUS.

The Dodder very frequently entwines itself about this plant, and gives it an appearance which may puzzle, if not mislead, the inexperienced botanist.





*Erica vulgaris.*

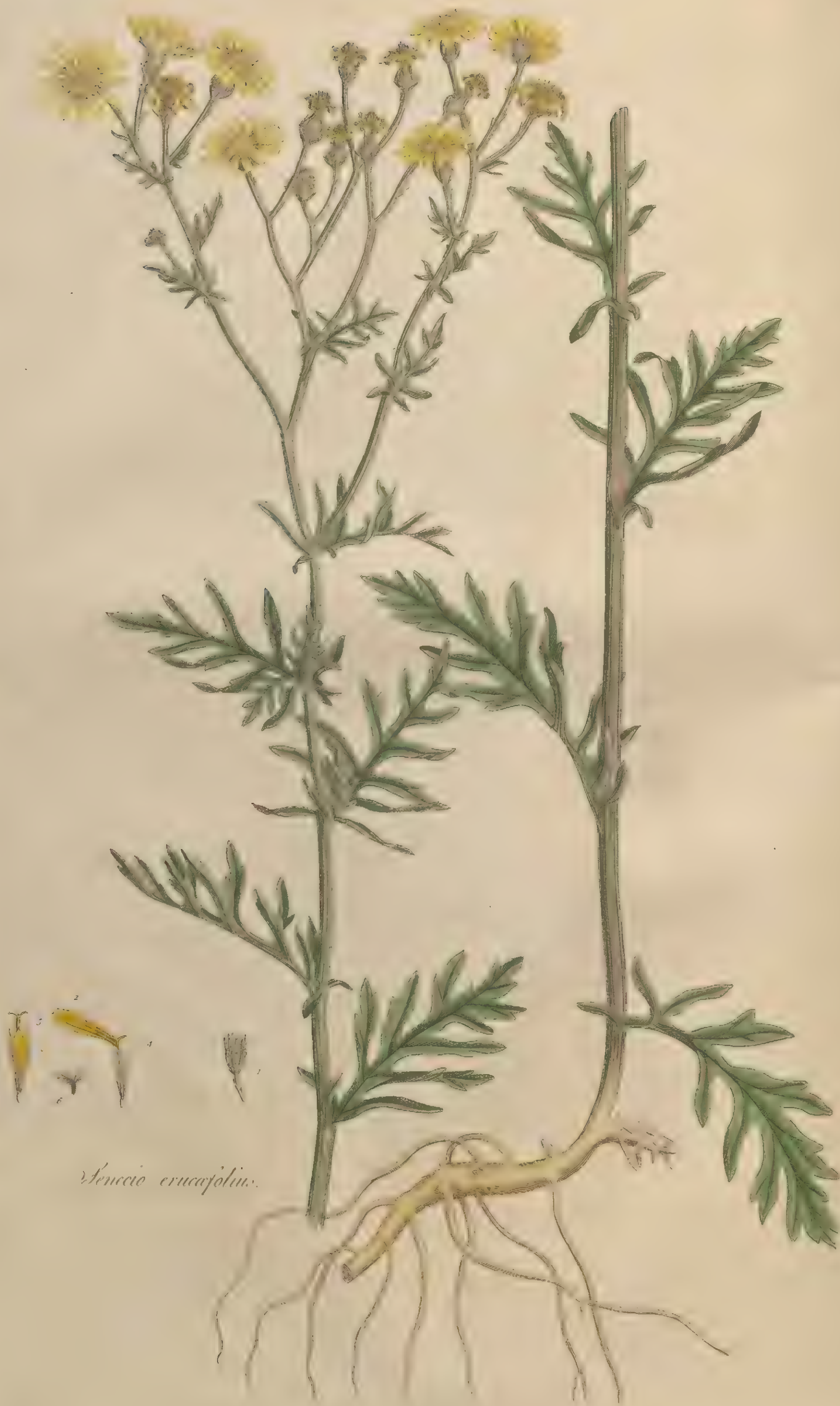












*Senecio crucifolius.*



# SENECIO ERUCÆFOLIUS. HOARY RAGWORT.

SENECIO *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

*Recept.* nudum. *Pappus* simplex. *Cal.* cylindricus, calyculatus: squamis apicè sphacelatis.

*Raii Syn. Gen.* 7. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES FLORE DISCOIDE.

SENECIO *erucæfolius* corollis radiantibus, foliis pinnatifidis dentatis subhirtis, caule erecto. *Lin. Syst. Vegetab.* p. 631. *Sp. Pl.* p. 1218. *Fl. Suec.* p. 750.

JACOBÆA altissima, foliis erucæ artemisiæve similibus et æmulis. *Rupp. Jen.* 164.

JACOBÆA Senecionis folio incano perennis. *Raii Syn.* p. 177. Hoary perennial Ragwort with Groundsel leaves. *Hudson. Fl. Angl.* p. 366.

RADIX	perennis, alba, plures turiones crassitie pennæ anserinæ, unciales, aut biunciales, sapore ingrato, in sequentem annum proferens:	ROOT	perennial, white, putting forth against the next year several shoots, the thickness of a goose quill, an inch or two inches in length, of a disagreeable taste.
CAULIS	erectus, tripedalis, foliosus, rigidus, substriatus, purpureus, lanuginosus.	STALK	upright, three feet high, leafy, rigid, slightly striated, purple and woolly.
FOLIA	alterna, femiamplexicaulia, subtus hirsuta, etiam incana, omnia pinnata seu potius pinnatifida, pinnis linearibus, acutis, dentatis.	LEAVES	alternate, half embracing the stalk, hairy underneath, and sometimes white with down; all of them pinnated, or rather pinnatifid, the pinnæ linear, pointed and toothed.
FLORES	lutei, numerosi, corymbosi, magnitudine fere florum Senecionis Jacobææ:	FLOWERS	yellow, numerous, almost the size of the flowers of the common Ragwort, growing in a corymbus.
CALYX	communis sub-cylindraceus, fulcatus, squamis tredecim, æqualibus, margine membranaceis, apicibus hirsuto-glandulosis, nulla nigredine tinctis, squamulis paucis linearibus adpressis ad basin, fig. 1.	CALYX	common to all the florets, somewhat cylindrical, grooved, scales thirteen in number, equal, membranous at the edge, the tips hairy and somewhat glandular, not tinged with black, furnished with a few linear scales at the base, which are pressed close, fig. 1.
COROLLA	composita, radiata, Flosculi feminei in radio tredecim circiter, patentes, oblongi, obsolete tridentati, fig. 2. Hermaphroditi numerosi in disco, limbo quinquefido, suberecto, fig. 3.	COROLLA	compound and radiate, Female flowers in the circumference about thirteen in number, spreading, oblong, faintly three-toothed, fig. 2. Hermaphrodite flowers in the center numerous, the limb divided into five segments and nearly upright, fig. 3.
STAMINA: FILAMENTA	quinque capillaria. ANTHERÆ in cylindrum coalitæ, fig. 5.	STAMINA: five capillary FILAMENTS. ANTHERÆ	united, and forming a cylinder, fig. 5.
SEMEN	oblongum, hispidulum; pappo sessili, simplici instructum, fig. 6.	SEED	oblong, a little hispid, furnished with sessile, simple down, fig. 6.

We have no doubt but the plant here figured is the *Jacobæa Senecionis folio incano perennis* of *Ray's Synopsis*, ed. 3: p. 177. It certainly has a less jagged, and more groundsel-like leaf, than the common Ragwort. Its leaves and stalks are also in general hoary, especially the latter\*; and so far the description discriminates; but why perennis? since both the *aquaticus* and *Jacobæa*, with which it has the greatest affinity, are considered as perennial. We believe also, that our plant is the *Jacobæa altissima, foliis Erucæ Artemisiæve similibus et æmulis* of *Ruppius Fl. Jen. ed. Hall.* p. 176. And as this descriptive name appears among those which LINNÆUS applies to his *Erucæfolius*, we consider ourselves warranted in adopting his name of *Erucæfolius*. Baron HALLER, who oftener makes species of varieties, than varieties of species, in the present instance considers this plant as a variety only of the *Jacobæa*. Professor JACQUIN, in his *Flora Austriaca*, gives a figure and description of a *Senecio*, which he calls *tenuifolius*; but as he adduces no synonyms, and as his figure differs in some respect from our plant, though we strongly suspect it to be the same, we dare not consider it as such.

The *Senecio Erucæfolius*, though not so common as the *Jacobæa*, is not unfrequent in the neighbourhood of London in certain situations, particularly in the environs of woods, under hedges, among bushes, &c. and no where more abundant than about the Oak of Honour Wood, near Peckham. The *Jacobæa*, on the contrary, delights to grow in open hilly pastures, church-yards, by road sides every where: nor do these plants differ less in their usual period of flowering; the *Erucæfolius* flowering chiefly in August, a month later than the other.

\* This hoariness is most observable when the plant is young, or when it grows in a woody and hilly situation, which it chiefly affects. When it is found in a moist soil, or cultivated in a garden, it loses this character, in common with many other plants of the same class.













*Teucrium Scorodonia.*



# TEUCRIUM SCORODONIA. SAGE-LEAVED GERMANDER, or WOOD SAGE.

TEUCRIUM *Lin. Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

*Corollæ* labium superius (nullum) ultra basin bipartitum, divaricatum ubi  
stamina.

*Raii Syn. Gen.* 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

TEUCRIUM *Scorodonia* foliis cordatis serratis petiolatis, racemis lateralibus secundis, caule erecto. *Lin. Syst. Vegetab.* p. 440. *Sp. Pl.* 789.

CHAMÆDRYS foliis cordatis productis, spicis longissimis nudis heteromallis. *Haller. Hist. n.* 287.

TEUCRIUM *Scorodonia*. *Scopoli Fl. Carn.* n. 721.

SCORDIUM alterum five *salvia agrestis* *Baub. Pin.* 247.

SCORODONIA five *salvia agrestis*. *Ger. em.* 662.

SCORODONIA *Scordium* alterum quibusdam et *salvia agrestis*. *Park.* 111. *Raii Syn.* 245. *Hudson. Fl. Angl.* p. 248. *Lightfoot Fl. Scot.* p. 303. *Fl. Dan.* t. 485.

RADIX perennis, lignosa, subrepens.

CAULES plures, sesquipediales, bipediales et ultra, sub-  
erecti, tetragoni, duri, purpurei, hirsuti.

FOLIA opposita, petiolata, cordato-oblonga, plerumque  
obtusa, sæpe vero acutiuscula, salviæ instar  
venosa, utrinque hirsutula, obtuse et inæqua-  
liter serrata.

PETIOLI hirsuti.

FLORES straminei, racemosi, secundi, racemis op-  
positis, longis, nudis, terminali duplo fere  
longiore.

BRACTÆA ovato-acuminata, singulo flori subjecta.

CALYX: PERIANTHIUM monophyllum, tubulosum,  
inferne basi gibbosum, labio superiore erecto,  
integro, aut obsolete trilobo; inferiore quadri-  
dentato, dentibus subæqualibus, *fig.* 1.

COROLLA monopetala, ringens; *Tubus* cylindraceus,  
brevis; *Labium* superius ultra basin profunde  
bipartitum, distantibus ad latera laciniis; *La-*  
*bium* inferius patens, trifidum, laciniis laterali-  
bus figura labii superioris, media maxima, sub-  
rotunda, *fig.* 2.

STAMINA: FILAMENTA quatuor, quorum duo lon-  
giora, purpurea, pilosa, primo erecta, conni-  
ventia, postea reflexa, et disjuncta. ANTHERÆ  
flavæ, *fig.* 3.

PISTILLUM: GERMEN quadripartitum. STYLUS fili-  
formis. STIGMATA duo, tenuia, *fig.* 4.

SEMINA quatuor, subrotunda, nigricantia, nitida, in  
fundo calycis, pilis transversis rigidis fere tecta,  
ibique detenta, ad debitam maturitatem, *fig.* 5.

ROOT perennial, woody, and somewhat creeping.

STALKS several, a foot and a half, two feet high, and  
more, nearly upright, four-cornered, hard,  
purple, and hairy.

LEAVES opposite, standing on foot-stalks, of an oblong  
heart-shape, generally obtuse, but often a little  
pointed, veiny like sage, a little hairy on each  
side, obtusely and unequally serrated.

LEAF-STALKS hairy.

FLOWERS straw-coloured, growing all one way, on  
long, opposite, naked racemi, the terminal  
one of which is almost twice as long as the  
rest.

FLORAL-LEAF ovate, pointed, and placed under each  
flower.

CALYX: a PERIANTHIUM of one leaf, tubular, on the  
under side gibbous at the base, the upper lip  
upright, entire or faintly three-lobed; the  
lower lip furnished with four teeth, which are  
nearly equal, *fig.* 1.

COROLLA monopetalous and ringent; *Tube* cylindrical  
and short; upper *Lip* deeply divided beyond  
the base, segments standing wide; lower *Lip*  
spreading, trifid, lateral segments the same  
shape as the segments of the upper lip, the  
middle one very large and roundish, *fig.* 2.

STAMINA: four FILAMENTS, two of which are longer  
than the rest, purple and hairy, at first upright,  
and closing together, afterwards turned back,  
and separated. ANTHERÆ yellow, *fig.* 3.

PISTILLUM: GERMEN quadripartite. STYLE fili-  
form. STIGMATA two, slender, *fig.* 4.

SEEDS four, nearly round, blackish, shining, in the  
bottom of the calyx, almost covered with cross  
rigid hairs, and kept there till they have ac-  
quired a proper degree of ripeness, *fig.* 5.

The Wood-sage, or more properly sage-leaved Germander, delights to grow in woody and hilly situations, among bushes, and under hedges, where the soil is dry and stony; and in such places it is not only common with us, but frequent in most parts of Great Britain.

It flowers in July, August, and September.

Its leaves much resembles those of Sage, from which circumstance, and not from any botanical or medical affinity, it receives its name.

As a medicinal plant, it has never been highly celebrated. Lewis omits it in his *Materia Medica*, but retains it in his *Dispensatory*: in smell, taste, and medical virtues, he says, it comes nearer to *Scordium* than Sage. RUTTY relates a case of Vertigo, brought on by the odour which arose from frequently handling the herb in the distillation of it. He ascribes to it the smell of the Hop, in lieu of which, he says, it may be substituted in making beer; and that, when boiled in the wort, the beer sooner becomes clear than when hops are made use of. Its virtues, in this respect, are highly extolled by the Rev. P. LAURENTIS of Bury\*. We have only to wish, that experiment may justify the encomiums of our learned and benevolent friend.

“Seeing so much fine ground under costly hops, which, it must be owned, had very large and verdant leaves, I could not but repine at the expence of soil, poles, dung, and labour, bestowed on this plant, especially when there is great reason to suppose, that the *Teucrium Scorodonia* would better answer the purpose. Of this plant I can so far say, that in smell and taste it resembles Hops. The name by which it goes in some authors is *Ambrosia*, a name announcing something immortal and divine; and to this day, *Ambrosie* is the appellation by which it goes among the common people in the island of Jersey. Here, when Cyder, the common beverage, has failed, I have known the people malt each his barley at home, and, instead of Hops use to very good purpose, the *Ambrosie* of their hedges.

“It is my ardent wish, I own, to see justice done to the neglected merits of this ambrosial plant; but should indolence, prejudice, or private interest, obstruct the introduction of it into use, let me at least intreat brewers to honour it with their notice, in preference to any unpalatable and unwholesome substitute they may have occasion to use in lieu of Hops.”

\* Wide Tour through Flanders, &c. published in the fourth number of Mr. Young's *Annals of Agriculture*.













*Hopscornus  
pratensis.*



# ALOPECURUS PRATENSIS. MEADOW FOXTAIL-GRASS.

ALOPECURUS *Lin. Gen. Pl. TRIANDRIA DIGYNIA.*

*Cal. 2-valvis Cor. 1-valvis.*

*Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORÆ IMPERFECTO CULMIFERÆ.*

ALOPECURUS *pratensis* culmo spicato erecto, glumis villosis, corollis muticis. *Lin. Syst. Vegetab. p. 93. Sp. Pl. p. 88. Fl. Suec. 20.*

ALOPECURUS spica ovata. *Haller. Hist. n. 1539.*

GRAMEN phalaroides majus five italicum. *Bauh. pin. 4.*

GRAMEN alopecuroides majus. *Ger. emac. 10.*

GRAMEN phalaroides majus. *Parkins. 1164.*

GRAMEN alopecuro simile glabrum cum pilis longiusculis in spica onocordon mihi denominatum: *I. B. II. Raii Syn. p. 396. The most common Foxtail-grass. Hudson. Fl. Angl. ed. 2. p. 27. Lightfoot Fl. Scot. p. 91. Schreb. Gram. 133. t. 19. f. 1.*

RADIX perennis, fibrosa, fibris pallide fuscis.

ROOT perennial and fibrous, the fibres of a pale brown colour.

CULMI sesquipedales, bipedales, et haud infrequenter tripedales, erecti, teretes, striati, læves, ad basin purpurei, radicanes.

STALKS a foot and a half, two feet, and not unfrequently three feet high, upright, round, finely grooved, smooth, at bottom purple, and til-  
luring.

FOLIA palmaria, seu spithamea, sensim in acutum mucronem terminata, glabra, striata, parte superna et ad margines si digiti deorsum ducantur aspera, lineam unam cum dimidia communiter aut duas fere lata. Vaginæ striatæ, læves, in superiore parte culmi inflatæ. Membrana brevis, obtusa.

LEAVES a hand's breadth or short span in length, gradually tapering to a point, smooth, striated, if drawn backward across the fingers feeling rough on the upper side and on the edges, commonly a line and a half or almost two in breadth. Sheaths striated, smooth, on the upper part of the stalk inflated. Membrane short and blunt.

SPICA sesquiuncialis, biuncialis, duas etiam nonnunquam cum dimidia uncias longa, duas tresque lineas lata, teres, cylindracea, obtusa, mollis.

SPIKE an inch and a half, two inches, and sometimes even two inches and a half long, and two or three lines broad, round, cylindrical, blunt and soft.

SPICULÆ unifloræ, compressæ, utrinque ciliatæ, nervosæ, mucronato-tridentatæ, fig. 1.

SPICULÆ one flower in each, flat, each side edged with hairs, ribbed, slightly tridentate, the middle point longest, fig. 1.

CALYX: Gluma bivalvis, uniflora, valvulis subæqualibus, ovato-lanceolatis, concavis, compressis, trinerviis, nervis pilosis, fig. 2.

CALYX: a Glume of two valves, containing one flower, the valves nearly equal, ovate and pointed, flattened, three-ribbed, the ribs hairy, fig. 2.

COROLLA univalvis, valvula concava, longitudine calycis, albida, subdiaphana, superne nervis tribus viridibus insignita, aristata; arista calyce duplo fere longiore, dorso valvulæ versus basin inserta, fig. 3.

COROLLA of one valve, the valve hollow, the length of the calyx, whitish, somewhat transparent, marked on the upper part with three green ribs, and bearded; the beard or awn almost as long again as the calyx, inserted into the back of the valve towards the base, fig. 3.

STAMINA: FILAMENTA tria, capillaria. ANTHERÆ oblongæ, utrinque bifurcæ, plerumque purpurascens, demum ferrugineæ, fig. 4.

STAMINA: three capillary FILAMENTS. ANTHERÆ oblong, forked at each end, for the most part purplish, finally ferruginous, fig. 4.

PISTILLUM: GERMEN ovatum, minimum. STYLI duo, villosi, reflexi, calyce longiores. STIGMATA simplicia, fig. 5.

PISTILLUM: GERMEN ovate, very minute. STYLES two, villous, reflexed, longer than the glumes of the calyx. STIGMATA simple, fig. 5.

SEMEN ovatum, minimum, glumis tectum, fig. 6, 7.

SEED ovate, very minute, covered by the glumes, fig. 6, 7.

In a former number of this work, containing the *Festuca fluitans*, we gave a copious extract from that excellent work on Grasses, the *Beschreibung der Gräser* of Professor SCHREBER: we now present our readers with an abridged account from the same author of another grass, apparently of much greater consequence in agriculture.

The Meadow Foxtail-grass is chiefly an inhabitant of the northern part of our moderate zone, being found abundantly in most parts of Germany, Holland, France, England, Denmark, Norway, Sweden, and Russia. Professor GMELIN has also found it plentifully in Siberia.

Though the grasses in general are not so strongly attached to particular situations as many plants are, yet they are always more abundant, and superior in goodness, in some one kind of ground than another. The Meadow Fox-tail loves a meadow ground somewhat low, and moderately wet, with a good soil, though it will also grow in dry, and even in quite wet ground; yet, in the first, it remains poor, small, and disappears by little and little, while, in the latter, other grasses are apt to overpower and supplant it.

In



In such districts of Saxony as are celebrated for the goodness of their meadows, it always makes a considerable part of the hay; and the same remark has been made by Mr. STILLINGFLEET and Professor KALM in England, respecting the best meadows about London.

The Meadow Foxtail is one of those grasses which appear first in the spring, and sometimes blow twice in the same year\*. In respect to flowering, it observes nearly the same time as the *Anthoxanthum odoratum*. In Germany it puts forth its silvery spikes about the beginning of May †, when the seed is ripe, which with us takes place before hay-making ‡, the spike remains unchanged in its shape for some time; the little husks containing the seed may easily be stripped off, but fall off very slowly of themselves.

Experience proves that the Meadow Foxtail-grass has a power of vegetating quickly. Its shoots proceed with such vigour, that it may very well be cut three times in a year. Its stalks are strong, and provided with large leaves, which are soft and juicy. Their taste is as that of good fodder-grass ought to be, sweetish and agreeable, having, when made into hay, neither the hardness of straw, nor the roughness or unpleasant taste attendant on some of the other grasses; we may therefore consider it as holding the first place among the good grasses, either as fresh fodder, or made into hay, especially for the larger cattle. Though the sheep in such meadows as abound with this grass, do not improve in the fineness of their wool, yet they give a preference to it, both green and dried. On the whole, we may with truth assert, that hay is better in proportion to the quantity of Meadow Foxtail-grass there is among it; not to mention that such hay has the advantage in the weight, and consequently goes farther than hay made of the finer grasses.

In the northern countries, Sweden especially, the meadows are frequently laid waste by a most destructive caterpillar, which produces a moth called, by LINNÆUS, *Phalena graminis*: it has been discovered, that the *Alopecurus pratensis* remains untouched by this destructive insect; so far, therefore, from injuring this grass, it gives it an opportunity, by weakening and destroying the others, to extend itself farther; but though its particular taste or forward growth exempts it from the ravages of this species of caterpillar, there is another which is particularly fond of it, viz. the *Phalena potatoria*, yet as this feeds singly on its foliage, and never increases greatly, it suffers little from it §.

As this grass, therefore, appears to be our author of so much consequence in the making and improving of meadows and pastures, he proceeds to give some account how this improvement may be effected.

In this business the first thing of moment, he observes, is the necessary choice and preparation of the ground; if that be in the power of the cultivator, and as the Meadow Foxtail is found neither to thrive in a soil that is quite dry, or quite wet, he prefers a wet one rendered moderately dry by draining.

After procuring a piece of ground naturally fit, or rendered so by art, he recommends it to be ploughed up immediately after harvest, before the wet season sets in, in which state it is to remain all the winter; the frost breaking the clods, renders it fit for sowing on in the spring, at which time you must throw in your seeds of the Meadow Foxtail, mixed with other proper pasture herbs ||, together with a crop of oats ¶; the latter, when sufficiently grown, may be cut for fodder.

A meadow, thus improved, requires all the care necessary in the management of meadows; in particular, a copious watering after hay-making, if the season prove unusually dry, must not be omitted. If after some years the soil should become bound, or noxious plants increase in such a manner as to make the meadow less productive, which often happens when the soil or situation is unfavourable, the meadow must be broken up and fresh sown.

The procuring of the seed, requisite even for a tolerably large sowing, is attended with but little difficulty, if we can only get some slips or roots of this grass. The great number of seeds which grow upon one spike, of which more than one spring from each slip; the double crop in one summer, and the rapid growth of this grass, evince this sufficiently. The gathering of the seed itself is very easy; it needs only to be stripped off with the hand, and put in a bag, and if there be a large quantity together, spread out and dried, even the hay-seed of such meadows as abound with Meadow Foxtail is useful in sowing; but we must well observe how it is mixed: good hay-seed should contain a greater proportion of grass-seeds than of other herbs; the latter must be esculent and nutritive, without any mixture of hard, woody, or succulent ones, which corrupt the hay; much less should it contain tasteless, acrid, or poisonous plants. But it may be asked, where is such hay-seed to be obtained? Certainly the meadows are rare which contain a mixture of proper plants unadulterated with noxious ones; hence the best method will be to collect separately the seeds of the most useful grasses and meadow plants, to increase them singly, to compound the hay-seed of them, and to sow therewith, at first, small meadows, from whence we may, in process of time, obtain a sufficient stock of seed for a more general cultivation.

\* This disposition of grasses to flower more than once in the same year, is perhaps deserving of more attention than may have hitherto been paid to it. We have noticed it to take place strongly in the present grass, the yellow Oat, the tall Oat, and some others; on the contrary, there is one grass, viz. the *Poa pratensis*, already figured, which we have never observed to shew the least disposition to throw up a flowering stem twice in the same year. While this may serve as an additional character, whereby it may be distinguished from the *Poa trivialis*, it may also recommend it as a suitable grass for extensive lawns, where bents are troublesome, and offend the eye. We observed, in treating of the *Poa pratensis*, that its root was of the creeping kind; it will probably be found, that all those grasses which have that sort of root flower but once in a season; and if we consider a creeping root as similar in its economy to a bulb, we shall not be at a loss to account for it.

† Its usual time of flowering with us.

‡ In the neighbourhood of London, hay-making generally commences three or four weeks sooner than it does fifty miles from town. Whether this practice hath arisen from the richness of soil accelerating the growth of the herbage, or from the meadows abounding more with early grasses, it may perhaps be difficult to determine; but certainly, by this practice, we reap all the advantages from those early grasses which are lost by longer delay; and hence the seeds of our hay-lofts must be proportionably better than those at a distance, as early grass is preferable to late.

§ In the papers of the Bath Agricultural Society, vol. II p. 79. the Rev. Mr. SWAYNE of Puckle Church, in Gloucestershire, gives an account of a very minute insect, which, feeding within the husks of the spikes, renders them barren; we shall quote his own words. "On rubbing out the husks, when I judged the seed to be approaching to ripeness, I found almost every seed-vessel occupied by a soft substance, of a deep yellow or orange colour, no ways resembling a seed. On applying the microscope, this substance proved to be a congeries of animalcules, which being shook out on a sheet of white paper, and separated from each other, displayed the exact shape and motion of those insects which are oftentimes found in hams and bacon, and which are known among housewives by the name of hoppers. The flies likewise, which these caterpillars produce, were found to be very like the hopper flies, only infinitely smaller."

|| We should prefer the latter end of August, or beginning of September, for the purpose of sowing grass seeds, provided the season proved favourable.

¶ Should the land intended to be laid down be very foul, we apprehend, repeated ploughings and harrowings, and that for more than one season, would be necessary. Farmers are divided in their opinions respecting the propriety of sowing Oats or Barley with grass-seeds; some apprehending, that the corn does the young grass more harm by robbing it of its nourishment, than the shade or shelter afforded thereby does it good.







# MELICA UNIFLORA. SINGLE-FLOWERED MELIC-GRASS.

MELICA *Lin. Gen. Pl. TRIANDRIA DIOYNIA.*

*Cal. bivalvis, biflorus, rudimentum floris inter flosculos.*

*Ray. Syn. Gen. 27. HERBA GRAMINIFOLIA FLORE IMPERFECTO CULMIFERA.*

MELICA *uniflora* panicula rara, calycibus bifloris, flosculo altero hermaphrodito, altero neutro. *Retzii*  
*Fasc. Obs. Bot. 1. p. 10 n. 9.*

GRAMEN avenaceum locustis rarioribus. *Bauh. Pin. p. 10.*

GRAMEN avenaceum spica mutica rariore gluma. *Hist. Ox. Ill. t. 7. f. 49.*

GRAMEN avenaceum nemorosum, gluma rarioribus ex fusco xerampelinis. *Raii Syn. p. 403.*

GRAMEN avenaceum rariore gluma nemorosum danicum. *Lab. Ad. P. Alt. p. 465. ic 1. B. p. 434.*

MELICA *montana* perennis in cespitibus, panicula flexuosa nutante, gluma uniflora. *Hudson. Fl. Angl. ed. 2.*  
*p. 37. Lycopodium 2. p. 45.*

RADIX perennis, fibrosa.

CULMUS simplex, terquipedalis et ultra, terribilis, vix  
vagus foliorum tunc terribilioribus, tunc  
filiis, ad basim terminatus.

FOLIA cernua quingenta circiter, a base usque, plana,  
lineam latam cum dimidio aut dimidio ultra  
in acutum mucronem sinuato, si di-  
giti deorsum ducantur aspera, superne subpi-  
lata, marginibus ad lentem minutissime feru-  
latis, membranaceis, vix ulla, et quod  
valde singulare, et naturæ dignum, foliolum  
ovato-ecuminatum, erectum, coloratum, ex  
anteriori parte oris vaginæ oritur, nemine ante-  
hac, ne cl. *Retzii* observatum, fig. 8.

FLORES paniculati.

PANICULA rara, pedunculis inferioribus geminis altero  
breviore, trifloris, etiam septem aut octo floris  
in hortis culta, superioribus solitariis.

SPICULÆ pedicellatæ, primo atro-purpureæ, muticæ,  
bifloræ.

CALYX: Gluma bivalvis, biflorus, coloratus, nitidus,  
valvula exteriori majore, ovata, concava, quin-  
quennervi, submucronata, interiori minore,  
ovato-lanceolata, trinervi, fig. 1.

FLOS hermaphrod. sessilis, valvula exterior magna, ven-  
tricosa, marginibus interiorem amplectens, quæ  
planiuscula, marginibus membranaceis re-  
flexis, præcipue prope basin, fig. 2, 3.

*sterilis* pedunculatus, imperfectus, fig. 9.; idem  
evolutus, fig. 10.

STAMINA: FILAMENTA tria, capillaria, brevissima. AN-  
THERÆ flavescens utrinque bifurcatæ, fig. 4.

PISTILLUM: GERMEN ovatum, glabrum, nitidum,  
flavescens. STYLI duo basi discreta, divari-  
cata. STIGMATA villosa, fig. 5.

NECTARIUM: Squamula minima, integra, ad basin  
germinis, fig. 6.

SEMEN ovatum, nitidum, majusculum, nigricans,  
fig. 7.

ROOT perennial and fibrous.

STALK simple, a foot and a half or more in height,  
leafy, where it is covered with the sheaths of  
the leaves somewhat angular, rough and striat-  
ed, at bottom of a dull purple colour.

LEAVES of the stalk about five in number, of a yel-  
lowish-green colour, flat, a line and a half or  
almost two lines broad, terminating gradually  
in a point, rough if drawn backwards betwixt  
the fingers, on the upper side somewhat hairy,  
the edges of the leaves when magnified finely  
ferrated, the membrane very short, scarce any;  
but what is very remarkable and worthy no-  
tice, a small ovate leaf with a long point, up-  
right, and coloured, rises from the fore-part  
of the mouth of the sheath, till now unob-  
served even by the celebrated *Retzius*, fig. 8.

FLOWERS growing in a panicle.

PANICLE loose, the lowermost flower-stalks growing  
two together, the one shorter than the other,  
bearing three flowers, and even seven or eight  
when cultivated in gardens, the uppermost  
growing singly.

SPICULÆ standing on little foot-stalks, at first of a  
dark purple colour, beardless, each containing  
two flowers.

CALYX: a Glume of two valves, containing two  
flowers, coloured and shining, the outermost  
valve ovate, hollow, having five ribs, and ter-  
minated by a short point, the innermost least,  
ovato-lanceolate, and three-ribbed, fig. 1.

FLOWER: the hermaphrodite one sessile, the outer  
valve large, bellying out, with its edges em-  
bracing the inner one, which is flattish, the  
edges membranous and turned back, especially  
near the base, fig. 2, 3.

the sterile flower standing on a foot-stalk, and  
imperfect, fig. 9.; the same unfolded, fig. 10.

STAMINA: three FILAMENTS, capillary and short,  
ANTHERÆ yellowish and forked at each end.  
fig. 4.

PISTILLUM: GERMEN ovate, smooth, shining, and  
yellowish. STYLES two, separate at bottom  
and spreading out. STIGMATA villosus, fig. 5.

NECTARY: a very minute, entire scale, at the base of  
the germen, fig. 6.

SEED ovate, shining, rather large and blackish, fig. 7.

This elegant species, long since noticed and described by many of the old Botanists, particularly RAY, has been overlooked by LINNÆUS. Professor RETZIUS\*, in the first fasciculus of his botanical observations, describes it anew, and gives it the name of *uniflora*, having found each spicula to contain only one perfect flower. This name we therefore most readily adopt. Mr. HUDSON, in his *Flora Anglica*, has mistaken this plant for the *varia* of LINNÆUS; and to the *montana* has given the name of *montana*.

The delicacy and striking colour of its panicle, joined to its place of growth, readily distinguishes it from all our other grasses.

It grows plentifully in most of the woods near London, and flowers in May and the beginning of June.

\* Andr. Joh. Retzii Fasciculus Observationum Botanicarum prius, cum figuris æneis, Lipsiæ, 1772.





*Melica uniflora*















# THLASPI CAMPESTRE. MITHRIDATE MUSTARD.

THLASPI *Lin. Gen. Pl. TETRADYNAMIA SILICULOSA.*

*Silicula emarginata, obcordata, polysperma: valvulis navicularibus, marginato-carinatis.*

*Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

THLASPI *campestre* filiculis subrotundis, foliis sagittatis dentatis, incanis. *Lin. Sp. Pl. p. 902. Syst. Vegetab. p. 491. Fl. Suec. n. 575.*

NASTURTIUM foliis imis petiolatis ovatis, caulinis sagittatis dentatis. *Haller. Hist. n. 509.*

THLASPI *campestre.* *Scopoli Flor. Carn. n. 807.*

THLASPI *arvense,* Vaccariæ folio majus. *Baub. Pin. 106.*

THLASPI *mithridaticum* sive *vulgatissimum* Vaccariæ folio. *Parkins. p. 835.*

THLASPI *vulgatius.* *J. Baub. II. p. 921.*

THLASPI *vulgatissimum.* *Ger. em. p. 262. Raii Syn. 305. Mithridate Mustard, Bastard Cresses. Hudson. Fl. Angl. p. 281. Lightfoot Fl. Scot. p. 341.*

RADIX annua, simplex, fibrosa.

CAULIS pedalis ad sesquipedalem, erectus, teres, subangulosus, villosus, superne tantum ramosus.

FOLIA radicalia longe petiolata, oblongo-ovata, obtusa, sæpius subintegra, interdum vero basi pinnatida, cito marcescentia, caulina sagittata, sparsa, conferta, suberecta, villosa, dentata, amplexicaulia.

FLORES minimi, albi.

RACEMI longi, erecti.

PEDUNCULI teretes, villosi, patentes, filiculis paulo longiores.

CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, obtusis, concavis, ad lentem subpilosis, marginibus et apicibus albidis, alternis paulo brevioribus et angustioribus, *fig. 1.*

COROLLA: PETALA quatuor, alba, calyce paulo longiora, limbo subrotundo, ungue gracili; *fig. 2.*

STAMINA: FILAMENTA sex, quorum duo paulo breviora. ANTHERÆ flavæ, *fig. 3.*

PISTILLUM: GERMEN ovale, compressum, emarginatum. STYLUS brevissimus. STIGMA capitatum, *fig. 4.*

PERICARPIUM: SILICULA ovata, obtusa, emarginata disperina, inferne gibba, superne concava, seminibus protuberantibus, *fig. 5, 6.*

ROOT annual, simple, and fibrous.

STALK a foot or a foot and a half high, upright, round, very slightly angular, villous, branched at top only.

LEAVES next the root standing on long foot-stalks, of an oblong-ovate shape, for the most part nearly entire, but sometimes pinnatifid at the base, soon decaying, those of the stalk arrow-shaped, placed irregularly, numerous, nearly upright, villous, toothed, and embracing the stalk.

FLOWERS very small and white.

RACEMI long and upright.

FLOWER-STALKS round, villous and spreading, a little longer than the seed-pods.

CALYX: a PERIANTHIUM of four leaves, the leaflets ovate, obtuse, hollow, slightly hairy when magnified, the edges and tips whitish, the alternate ones shorter and narrower than the others, *fig. 1.*

COROLLA composed of four white PETALS, a little longer than the calyx, the limb roundish, and claw very slender, *fig. 2.*

STAMINA: six FILAMENTS, of which two are shorter than the rest, *fig. 3.*

PISTILLUM: GERMEN oval, flat, emarginate. STYLE very short. STIGMA forming a little head, *fig. 4.*

SEED-VESSEL: an ovate POD, obtuse, emarginate, containing two seeds, underneath gibbous, above concave, the seeds protuberating, *fig. 5, 6.*

The *Thlaspi arvense* filiquis latis of *C. Baubine*, and the present species, are the two whose seeds have been selected from this numerous genus for medicinal use. These appear to have been used indiscriminately; and sometimes the seeds of the common Cress (*Lepidium sativum*) have been substituted for both. Their virtues appear to be pretty similar: RUTTY prefers those of the *arvense*, as being the most active: they certainly have much more of the alliaceous taste than those of the *campestre*.

In the present practice they are rarely made use of any otherwise than as ingredients in the Venice Treacle and Mithridate, though some recommend them in different disorders, preferably to the common Mustard, with which they agree nearly in their pharmaceutic properties. *Lewis, Mat. Med. p. 647.*

The present species is not an unusual inhabitant of corn-fields; nevertheless it is rather a scarce plant with us. We have noticed it in the greatest plenty about Coomb Wood, near Kingston. Dr. GOODENOUGH informs me, it is not uncommon in Gunnersbury Lane, near Ealing.

It flowers in June, and ripens its seeds in July and August.











# ROSA CANINA.

# DOG ROSE.

ROSA *Lin. Gen. Pl.* ICOSANDRIA POLYGYNIA.

*Cal.* urceolatus, quinquefidus, carnosus, collo coarctatus. *Petala* 5. *Sem.* plurima, hispida, calycis interiori lateri affixa.

*Raii Syn.* ARBORES ET FRUTICES

ROSA *canina* germinibus ovatis, pedunculisque glabris, caule petiolisque aculeatis. *Lin. Syst. Vegetab.* p. 394. *Sp. Pl.* p. 704. *Fl. Suec.* n. 441.

ROSA spinis aduncis, foliis septenis, calycibus tomentosis, segmentis pinnatis et semipinnatis, tubis brevissimis. *Haller. Hist.* n. 1101.

ROSA *canina.* *Scopoli Fl. Carn.* n. 604.

ROSA sylvestris vulgaris flore odorato incarnato. *Baub. Pin.* p. 483.

ROSA sylvestris inodora s. canina. *Park.* p. 1017. sylvestris alba cum rubore folio glabro. *J. B. II.* p. 43. *Raii Syn.* p. 454. Cynosbates et Cynorrhodon Officinarum. The common wild Briar or Dog's Rose, the Hep-tree. *Hudson. Fl. Angl. ed. 2.* p. 220. *Lightfoot Fl. Scot.* p. 262.

FRUTEX	sepedalis et ultra, aculeatus, scandens, serpente.	A SHRUB	six feet or more in height, prickly, climbing or creeping.
CAULIS	teres, viridis, seu purpureus, ramosus, aculeatus, aculei validi, recurvi, juniores ruberrimi, senescentes cinerei.	STALK	round, green, or purple, branched and prickly, prickles strong, crooked back, the young ones bright red, the old ones ash-coloured.
FOLIA	alterna, pinnata, plerumque septena, inodora, foliolis sessilibus, ovatis, acutis, serratis, superiore nitidis, inferne pallidioribus, inferioribus sensim minoribus, nervo medio subtus aculeato.	LEAVES	alternate, pinnated, consisting for the most part of seven folioli, which are scentless, ovate, pointed, serrated, the upper side shining, the lower side paler, the lowermost ones gradually smallest, the mid-rib prickly underneath.
STIPULÆ	denticulatæ, denticulis apice rubris, capitatis.	STIPULÆ	finely toothed, the teeth tipped with red, and terminated by a globule.
FLORES	terminales, bini seu terni, etiam feni, pedunculati, pedunculis teretibus, nudis.	FLOWERS	terminal, growing two or three, even sometimes six together, standing on footstalks, which are round and naked.
CALYX	calycis foliola lanceolata, longe caudata, duosimplicia, duo utriusque pinnata, pinnis latefcentibus, acutis, unum ab altero tantum latere pinnatum, <i>fig. 1.</i>	CALYX	the folioli lanceolate, and long-tailed, two of them simple, two pinnated on each side, the pinnæ broadish and pointed, and one pinnated only on one side, <i>fig. 1.</i>
COROLLA	PETALA quinque, obcordata, remotiuscula, carnea, ad basin pallidiora.	COROLLA	five PETALS inversely cordate, a little remote from each other, pale red, faintest towards the base.
STAMINA	FILAMENTA plurima, lutea, fetacea. ANTHERÆ incumbentes, ovatae, <i>fig. 2.</i>	STAMINA	FILAMENTS numerous, yellow, tapering. ANTHERÆ incumbent, and ovate, <i>fig. 2.</i>
PISTILLUM	GERMINA plurima, intra tubum calycis, <i>fig. 3.</i> oblonga, lanata. STYLI filiformes. STIGMATA plurima, arcte conniventia in capitulum, <i>fig. 3.</i>	PISTILLUM	GERMINA numerous, within the tube of the calyx, <i>fig. 3.</i> oblong and woolly. STYLES filiform. STIGMATA numerous, closely uniting and forming a little head, <i>fig. 3.</i>
PERICARPIUM	BACCA ovalis, nitida, coccinea, unilocularis.	SEED-VESSEL	an oval, shining, scarlet BERRY of one cavity.
SEMINA	plurima, lutescentia, subovata, lanata, apice barbata.	SEEDS	numerous, yellowish, somewhat ovate, woolly, bearded at top.

We remember somewhere to have seen an attempt to verify the Genera Plantarum: should such a plan ever be seriously agitated, we might recommend the following lines, written perhaps before any true notion was entertained of genus or species, as expressive of the Rose:

"Quinque sumus fratres, sub eodem tempore nati,  
"Bini barbati, bini sine crine creati,  
"Quintus habet barbam, sed tantum dimidiatam."

On examination it will appear, that this description, however quaint, accords exactly with the calyx in most, it not all, the species of this genus.

In some parts of Europe, particularly Austria and Carniola, the Roses are much more numerous than with us; and appear to create difficulties in determining the species to which we are happily strangers. SCOPOLI thus exclaims: "*Fungum et Rosam* quisque nescit, species vero genuinas utriusque generis ne Botanici quidem consummati." The present species, without some little attention, may however be mistaken for the *alba*, especially when its flowers are whiter than ordinary.

The Dog Rose is well known to produce the Hep, a fruit agreeable enough when ripe and mellowed by the frost. Of these a conserve is made, and kept in the shops, where it is more used as a vehicle for other medicines than for any virtue of its own.

A very singular mossy protuberance is often found on various parts of this Rose, which is occasioned by an insect, the *Cynip. Rosæ* of LINNÆUS. Formerly this substance, under the name *Bedeguar*, was used medicinally; but is now with much propriety rejected.

Its lively blossoms decorate our hedges in the month of July. The fruit is late before it ripens. In the winter it is much sought after by many birds, especially the Pheasant.

The water distilled from the wild Rose is said to be infinitely more fragrant than the common Rose water. HALLER says of it, "Fragrantia ejus olei omnia alia odoramenta superat, ut inter regia dona sit."

The strong thorns with which this shrub is furnished make it valuable either for forming hedges of itself, or for planting with others of stronger growth. The best way of raising plants for this purpose will be from seeds.





*Rosa canina.*













*Convallaria majalis.*



# CONVALLARIA MAJALIS. LILY OF THE VALLEY.

CONVALLARIA *Lin. Gen. Pl.* HEXANDRIA MONOGYNIA.

*Cor. sexfida. Bacca maculosa 3-locularis.*

*Raii Syn. Gen.* 16. HERBÆ BACCIFERÆ.

CONVALLARIA *majalis* scapo nudo. *Lin. Syst. Vegetab.* p. 275. *Spec. Plant.* p. 451. *Flor. Suec.* n. 292.

POLYGONATUM scapo diphylo, floribus spicatis, nutantibus, campaniformibus. *Haller. Hist.* n. 1241.

CONVALLARIA *majalis.* *Scopoli Fl. Carn.* n. 418.

LILIUM convallium album. *Bauh. Pin.* p. 304.

LILIUM convallium. *Ger. Emac.* p. 410. flore albo, *Parkins. Parad.* p. 349. *Raii Syn.* p. 264. Lily-convally or May Lily. *Hudson. Fl. Angl.* ed. 2. p. 146. *Lightfoot, Fl. Scot.* p. 182.

RADIX perennis, fibrosa, fibris plurimis, teretibus, transversim rugosis, horizontaliter paulo infra terram in longum extensis, repentibus.

SQUAMÆ quatuor, vel quinque, subnervosæ, purpurascens, alternæ, basin foliorum et scapi obvestiunt et colligant.

FOLIA bina, petiolata, ovata, utrinque acuta, erecta, lævia, nervosa, altero plerumque majori, late viridia, petiolis teretibus, exteriori punctis rubris adsperso, tubuloso ad recipiendum interiorem solidum.

SCAPUS lateralis, longitudine foliorum, erectus, nudus lævis, semicylindraceus.

BRACTÆA lanceolata, membranacea, sub singulo pedunculo, pedunculo brevior.

FLORES sex, five octo, racemosi, nutantes, albi seu lutescentes, odorati.

PEDUNCULI uniflori, teretes, filiformes.

CALYX nullus.

COROLLA monopetala, globoso-campanulata. *Limbus* sexfidus, laciniis obtusiusculis, reflexis, *fig. 1.*

STAMINA: FILAMENTA sex, subulata, petalo inserta, corolla breviora. ANTHERÆ oblongæ, erectæ, biloculares, flavæ, longitudine filamentorum, *fig. 2.*

PISTILLUM: GERMEN subrotundum, viride. STYLUS filiformis, staminibus longior. STIGMA obtusum, trigonum, *fig. 3.*

PERICARPIUM: BACCA globosa, majuscula, rubra, trilocularis, polysperma, *fig. 4.*

SEMINA quinque et ultra majuscula, lutescentia, hinc convexa, inde plana seu angulata, *fig. 5, 6.*

ROOT perennial, fibrous, fibres numerous, round, transversely wrinkled, extending horizontally just below the surface of the earth, and creeping to a considerable distance.

SCALES four or five slightly ribbed, purplish, alternate scales surround and bind together the base of the leaves and stalk.

LEAVES growing two together, standing on foot-stalks, pointed at each end, upright, smooth ribbed, one generally larger than the other, of a bright green colour, foot-stalks round, the outermost dotted with red, and tubular to receive the inner one which is solid.

STALK lateral, the length of the leaves, upright, naked, smooth, semicylindrical.

FLORAL-LEAF lanceolate, membranous, under each flower-stalk, shorter than the flower-stalk.

FLOWERS six or eight, growing in a racemus, hanging down, white or yellowish, and sweet-scented.

FLOWER-STALKS one flowered, round, and filiform.

CALYX wanting.

COROLLA monopetalous, roundish, bell-shaped. The *Limb* divided into six obtuse reflexed segments, *fig. 1.*

STAMINA: six FILAMENTS tapering, inserted into the petal, and shorter than the corolla. ANTHERÆ oblong, upright, bilocular, yellow, the length of the filaments, *fig. 2.*

PISTILLUM: GERMEN roundish, green. STYLE filiform, longer than the stamens. STIGMA obtuse, and three-cornered, *fig. 3.*

SEED-VESSEL a round, largish, red BERRY, having three cavities, and containing many seeds, *fig. 4.*

SEEDS five and more, largish, yellowish, convex on one side, and flat or angular on the other, *fig. 5, 6.*

LINNÆUS, in his *Flora Lapponica*, p. 80. gives his reasons at large for uniting in one genus the *Lilium convallium*, the *Polygonatum*, and *Unifolium*, and for adopting the name *Convallaria*.

The Lily of the Valley claims our notice as an ornamental and a medicinal plant. As an ornamental one, few are held in greater estimation; indeed, few are the flowers which can boast such delicacy with such fragrance; fortunately it is most easy of cultivation, requiring only to be placed in the shady part of a garden, and to be transplanted now and then, when the roots are too much matted together to produce flowers freely. It bears forcing admirably in pots, and hence the curious may have it in blossom at least two months in the year.

There is a variety of it with reddish flowers and double blossoms. In its wild state it is seldom seen in berry; but produces them readily when cultivated. Like many of those plants which are eagerly sought after, it is now become rather scarce in the neighbourhood of London. In Mr. RAY's time it grew plentifully on Hampstead-Heath, but is now sparingly found there. In Lord Mansfield's wood, near the Spaniard, it may be met with in greater abundance; nor is it uncommon in the woods about Dulwich. It flowers in May and June.

The flowers readily impart their fragrance, as well as a penetrating bitterish taste, both to watery and spirituous menstrua. Their odorous matter, like that of the white Lily, is very volatile, being totally dissipated in exsiccation, and elevated in distillation; nor does the distilled spirit turn milky on the admixture of water, as those spirits do which are impregnated with actual oil. The pungency and bitterness, on the other hand, reside in a fixed matter, which remains entire both in the watery and spirituous extracts, and which in this concentrated state approaches, as CARTHEUSER observes, to hepatic Aloes.

It is principally from the volatile parts of these flowers, that medicinal virtues have been expected in nervous and catarrhus disorders; but probably their fixed parts also, which have no smell, have perhaps the greatest share in their efficacy. The flowers, dried and powdered, and thus divested of their odoriferous principle, prove strongly sternutatory. Watery or spirituous extracts made from them, given in doses of a scruple or half a dram, act as gentle stimulating aperients and laxatives, and seem to partake of the purgative virtue as well as of the bitterness of Aloes.

The roots possess a greater degree of bitterness, and a similar purgative quality. *Lewis's Mat. Med.*











# LIGUSTRUM VULGARE. PRIVET or PRIM.

LIGUSTRUM *Lin. Gen. Pl.* DIANDRIA MONOGYNIA.

*Cor.* 4 fida. *Bacca* tetrasperma.

*Raii Syn.* ARBORES BACCIFERÆ.

LIGUSTRUM *vulgare.* *Lin. Syst. Vegetab.* p. 54. *Sp. Pl.* p. 10. *Fl. Suec.* n. 5. *Haller. Hist.* n. 530.  
*Scopoli Flor. Carniol.* n. 4. *Hudson. Fl. Angl.* ed. 2. p. 3. *Lightfoot Fl. Scot.* p. 72.

LIGUSTRUM *Germanicum.* *Baub. Pin.* 475. *Ger. em.* p. 1394 *Parkinson.* p. 1446. *Raii Syn.* p. 465. Privet or Prim.

FRUTEX sepedalis circiter, ramosus, cortex ex cinereo virefcens, punctis plurimis sparsis prominulis exasperata: rami oppositi, junioribus flexilibus, purpurascens.

FOLIA opposita, brevissime petiolata, ovato lanceolata, utrinque glabra, integerrima, inferioribus ad exortum ramulorum minoribus.

FLORES albi, odorati, paniculati.

PANICULA biuncialis, densa, subpyramidata.

RAMI paniculae ut pedicelli ad lentem villosi.

CALYX: PERIANTHIUM monophyllum, minimum, hemisphaericum, albidum, ore quadridentato, dentibus erectis, minimis, *fig. 1.*

COROLLA monopetala, infundibuliformis, alba, cito rufescens. *Tubus* cylindraceus, longior calyce. *Limbus* quadripartitus, patens, laciniis ovatis crassius, obtusis, *fig. 2.*

STAMINA: FILAMENTA duo, opposita, brevissima, alba. ANTHERÆ majusculæ, erectæ, longitudine fere corollæ. POLLEN flavescens, *fig. 3.*

PISTILLUM: GERMEN subrotundum. STYLUS filiformis, albus, superne paululum incrassatus. STIGMA obtusum, crassiusculum, vix manifeste bifidum, *fig. 4.*

PERICARPIUM: BACCA globosa, glabra, nigra, unilocularis, *fig. 5.*

SEMINA tria five quatuor, hinc convexa, inde angulata, *fig. 6.*

A SHRUB, usually about six feet high, branched, the bark of a greenish-ash colour, irregularly sprinkled with numerous prominent points; branches opposite, the young ones flexible and purplish.

LEAVES opposite, standing on very short foot-stalks, ovato-lanceolate, smooth on each side, perfectly entire, the lower ones at the bottoms of the small branches least.

FLOWERS white, sweet-scented, forming a panicle.

PANICLE about two inches in length, close and somewhat pyramidal.

BRANCHES of the panicle, as well as the flower-stalks, villous when magnified.

CALYX: a PERIANTHIUM of one leaf, very small, hemispherical, and whitish, the mouth having four teeth, which are upright and very minute, *fig. 1.*

COROLLA of one petal, funnel-shaped, white, soon changing to a reddish-brown colour. The tube cylindrical, longer than the calyx. Limb deeply divided into four segments, which are spreading, ovate, thick, and obtuse, *fig. 2.*

STAMINA: two FILAMENTS, opposite, very short and white. ANTHERÆ rather large, upright, almost the length of the corolla. POLLEN yellowish, *fig. 3.*

PISTILLUM: GERMEN roundish. STYLE filiform, white, a little thickened above. STIGMA obtuse, thickish, scarce perceptibly bifid, *fig. 4.*

SEED-VESEL: a round, smooth, shining, black, berry of one cavity, *fig. 5.*

SEEDS three or four, convex on one side, and angular on the other, *fig. 6.*

Previous to the publication of the *Flora Japonica* by Professor THUNBERG\*, the present celebrated successor to the immortal LINNÆUS, Botanists were acquainted with one species of Ligustrum only. That gentleman describes another, to which he gives the name of *japonicum*, and characterises the two in the following manner:

*Ligustrum vulgare foliis ovatis obtusis, panicula simpliciter trichotoma.*

*Ligustrum japonicum foliis ovatis acuminatis panicula decompositi trichotoma.*

In point of utility, not to say ornament, few of our English or even foreign shrubs exceed the common Privet. Its chief use is to form such hedges as are required in the dividing of gardens for shelter or ornament; the Italian or ever-green Privet, as it is called, which is only a variety of the common species, is usually preferred for this purpose. The Privet bears clipping admirably well; is not liable to be disfigured by insects, and having roots formed only of fibres, it robs the ground less than almost any other shrub. It is found to thrive better in the smoke of great cities than most others; so that whoever has a little garden in such places, and is desirous of having a few plants that look green and healthy, may be gratified in the Privet, because it will flourish and look well there. MILLER says it will grow well under the shade and drip of trees.

The best mode of raising Privet is from seeds, though it is capable of being propagated by layers and cuttings.

The Privet is not apt to be eaten by cattle, and the *Sphinx Ligustri*, or *Privet Hawk Moth*, one of the largest as well as the most beautiful insects we have, is almost the only one that feeds on it in its Caterpillar state. There are few gardens having Privet in which this Caterpillar may not be found in the months of August and September. The readiest way of discovering it is by its dung, which is sufficiently visible under those shrubs on which it feeds. The *Meloe vesicatorius*, commonly known by the name of Cantharides, or Blister-beetle, is found also on the leaves of this shrub. The berries of the Privet continue on the plant till spring advances, and in times of scarcity are eaten by different sorts of birds; but by none with so much avidity as the *Bulfinch* (*Loxia Pyrrhula*). Bird-catchers who know this, often catch them in the following manner: they take some large boughs of the Privet in berry, stick them into the ground where Bulfinches frequent, lime the top twigs, and place a call bird underneath.

The berries are also recommended in dying, colouring of wines, and as affording a purple colour to stain prints; but for these several purposes there are much better materials in common use.

It usually grows in woods and hedges; is not nice in its soil or situation, but flourishes most in a moist soil; flowers in July, and ripens its berries in Autumn.

It is found with three leaves at a joint, with variegated leaves, and white berries. HALLER.

\* Caroli Petri Thunberg *Flora Japonica*, Lipsiæ 1784.





*Ligustrum vulpium*













*Senecio palustris.*



# SONCHUS PALUSTRIS. MARSH OR TREE SOW-THISTLE.

SONCHUS *Lin. Geh. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.*

*Recept. nudum. Calyx imbricatus, ventricosus. Pappus plumosus.*

*Raii Syn. Gen. 27. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.*

SONCHUS *palustris* pedunculis calycibusque hispidis subumbellatis, foliis runcinatis basi aristatis. *Lin. Syst. Vegetab. p. 594. basi sagittatis. Sp. Pl. p. 1116.*

SONCHUS asper arborescens. *Baubin. Pin. p. 124. ed. 2.*

HIERACIUM arborescens palustre. *Ejusd. ed. 1.*

SONCHUS tricubitalis, folio cuspidato. *Merr. Pin.*

SONCHUS arborescens alter. *Ger. Em. p. 294.*

SONCHUS lævis altissimus vel Sonchus lævior austriacus s. altissimus. *Clus. Hist. CXLVII.*

SONCHUS arborescens. *Parkins. p. 808. Raii Syn. p. 163. The greatest Marsh Tree Sow-thistle: Hudson. Fl. Anglic. p. 337.*

<b>RADIX</b> perennis, plurimis fibris majusculis capillata, minime vero repens sicut in arvensi.	<b>ROOT</b> perennial, furnished with numerous large fibres, but not creeping, as in the corn Sow-thistle.
<b>CAULIS:</b> ex eadem radice, exsurgunt caules plures, erecti, orgyales, et ultra, crassitie pollicis, angulati, læves, purpurascens, fistulosi; lactescentes, foliosi, apice ramosi.	<b>STALK:</b> from the same root arise several stalks, upright, six feet or more high, the thickness of one's thumb, angular, smooth, purplish; hollow, milky, and branched at top.
<b>FOLIA</b> caulina sparsa; inferiora basi sagittata, runcinata, laciniis duabus, vel tribus utrinque inæqualibus, acuminatis, terminali longissima, suprema integra, ensiformia, basi aristata, omnibus minutim denticulatis.	<b>LEAVES</b> of the stalk placed without any regular order, the lower ones arrow-shaped at the base, and runcinate, with two or three unequal pointed segments on each side, the terminal one very long, the upper leaves entire, sword-shaped, bearded at the base, all of them very finely toothed.
<b>FLORES</b> subumbellati, lutei, floribus arvensis duplo minores.	<b>FLOWERS</b> of a yellow colour, about half the size of those of the corn Sow-thistle, forming a large kind of umbel.
<b>PEDUNCULI</b> hispidi seu potius viscidum cum omnes pili globulo terminantur.	<b>FLOWER-STALKS</b> hispid or rather viscid, as each hair is terminated by a globule.
<b>CALYX</b> communis primo cylindraceus, apice truncatus; viscidus, perfecta florescentia ventricoso-conicus, squamis plurimis, linearibus, inæqualibus.	<b>CALYX:</b> the common calyx at first cylindrical, truncated at top; and viscid, the flowering being over, bellying out at bottom and conical, the scales numerous, linear and unequal.
<b>COROLLA</b> composita, imbricata, uniformis. <i>Corollæ</i> hermaphrodite, numerosæ, æquales: <i>Tubus</i> longitudine limbi, albus, pilosus. <i>Limbus</i> linearis, apice quinque-dentatus, <i>fig. 1, 2.</i>	<b>COROLLA</b> compound; imbricated and uniform. <i>Florlets</i> hermaphrodite, numerous, and equal. <i>Tube</i> the length of the limb, white and hairy. <i>Limb</i> linear, terminated by five teeth, <i>fig. 1, 2.</i>
<b>STAMINA:</b> FILAMENTA quinque, capillaria, brevissima. <i>ANTHERÆ</i> flavæ; in tubum cylindraceum coalitæ, <i>fig. 3.</i>	<b>STAMINA:</b> five; capillary, very short FILAMENTS. <i>ANTHERÆ</i> yellow, forming a cylindrical tube, <i>fig. 3.</i>
<b>PISTILLUM:</b> GERMEN oblongo-ovatum, album. <i>STYLUS</i> filiformis; longitudine staminum. <i>STIGMATA</i> duo, revoluta; <i>fig. 4, 5.</i>	<b>PISTILLUM:</b> GERMEN oblong-ovate, white. <i>STYLE</i> filiform, the length of the stamens. <i>STIGMATA</i> two, rolled back, <i>fig. 4, 5.</i>
<b>SEMEN</b> pallide fuscum, oblongum, utrinque sulcatum, unde subtetragonum apparet, <i>fig. 6.</i>	<b>SEED</b> pale brown, oblong, with a groove on each side; whence it appears somewhat four cornered; <i>fig. 6.</i>
<b>PAPPUS</b> femine longior, sessilis, simplex.	<b>DOWN</b> longer than the seed; sessile, unbranched.
<b>RECEPTACULUM</b> nudum, punctis prominulis scabrum.	<b>RECEPTACLE</b> naked; rough with small prominent points.

PARKINSON gives a tolerable figure, and a pretty accurate description of this plant; and succeeding Botanists, particularly RAY, have sufficiently ascertained its specific characters: nevertheless HALLER considers it as a variety of the *arvensis*: his words are, "neque mihi omnia consideranti differre videtur." Had the Baron seen the plant growing, he certainly would not have been thus singular in his opinion.

It agrees with the *arvensis* in having a perennial root, which however does not creep. When placed in a garden, by the side of the *arvensis*, it exceeds it one half; and when planted by the water side, out-tops it by two-thirds. Indeed, in such situations we have seen it ten feet high, and we believe it may justly be considered as the tallest English plant; but though it is so much taller than the *arvensis*, its blossoms are not so large. In its place of growth it differs also from the *arvensis*; while the one is chiefly observed in corn-fields, the other is a constant inhabitant of marshes. There is a difference also in the periods of their flowering, the *palustris* being later by about three weeks; but the base of the leaf in these two plants affords, perhaps, the best character; and of which LINNÆUS, with his usual acumen, has availed himself.

The *Sonchus palustris* occurs sparingly in the marshes about Blackwall and Poplar, and flowers the latter end of July.

The common Sow-thistle is well known to be a favourite food of rabbits; but we believe it has scarcely been suspected, that it might be ranked with our esculent herbs; yet a gentleman, whose delicate state of health has led him to make experiments on such kind of plants, and in whose veracity we place the most implicit confidence, assures us, that he has found the tender shoots and buds of the common Sow-thistle (the smooth sort) boiled in the manner of Spinach, to afford excellent greens; superior to any others which he has tried; not in common use.











# RUMEX ACETOSELLA. SHEEP'S SORREL.

RUMEX *Lin. Gen. Pl. Hexandria Trigynia.*

*Cal.* 3-phyllus. *Petala* 3, conniventia. *Sem.* 1. triquetrum.

*Raii Syn. Gen.* 5. Herbæ flore imperfecto feu stamineo (vel apetalò potius).

RUMEX *Acetosella* floribus dioicis foliis lanceolato-hastatis. *Linn. Syst. Vegetab.* p. 286. *Sp. Pl.* 481.  
*Fl. Suec.* n. 319.

LAPATHUM sexubus separatis, foliis sagittatis, hamis acutis recurvis. *Haller bist.* 1596.

LAPATHUM *Acetosella.* *Scopoli Fl. Carn.* n. 439.

ACETOSA arvensis lanceolata. *Baubin. Pin.* p. 114.

OXALIS tenuifolia. *Ger. emac.* 397.

ACETOSA minor lanceolata. *Parkinsf.* 744.

LAPATHUM acetosum repens lanceolatum. *Raii Syn.* p. 143. Sheep's Sorrel. *Hudson Fl. Angl.*  
p. 156. *Lightfoot Fl. Scot.* p. 191.

RADIX perennis, sublignosa, repens, fusca.

ROOT perennial, of a brown colour, somewhat woody, and creeping.

CAULIS palmaris ad pedalem, erectus, lævis, striatus, subangulosus, ramosus.

STALK from a hand's breadth to a foot in height, upright, smooth, striated, somewhat angular, branched.

FOLIA alterna, petiolata, inferiora lanceolato-hastata, hamis sæpius recurvis, in umbrosis subglaucæ, in apricis ut ut tota planta sanguinea, superiora lineari-lanceolata.

LEAVES alternate, standing on foot-stalks, the lower ones lanceolate, and halbert-shaped, the lobes forming the halbert, usually bent upwards, in shady situations somewhat glaucous, in exposed ones of a blood colour, as well as the whole plant, the upper ones entire, betwixt linear and lance-shaped.

PETIOLUS longitudine folii, inferne striatus, superne canaliculatus, basi vaginans, vaginâ apice membranaceâ, albâ, lacerâ, sæpe reflexâ.

LEAF-STALK the length of the leaf, on the under side striated, above single-channeled, forming a sheath at bottom, the tip of which is membranous, white, torn, and often reflexed.

SPICÆ plurimæ, nudæ, subramosæ, sæpe nutantes.

SPIKES numerous, naked, somewhat branched, and often drooping.

FLORES masculi et foeminei in distinctis plantis, minuti; *fig.* 1, 2. flos masculus auctus; *fig.* 3. foemineus; *fig.* 4. semen magnitudine naturali; *fig.* 5. idem auct.

FLOWERS male and female in separate plants, very minute; *fig.* 1, 2. a male flower magnified; *fig.* 3. a female flower; *fig.* 4. the seed of its natural size; *fig.* 5. the same magnified.

In representing the two sexes (which occur in this as well as in the common Sorrel) we have intended that one of them should express the plant in its dwarf state, as it usually occurs on very dry, hilly pastures. In such situations the whole plant is frequently found of a bright red colour. In more shady aspects it grows taller, and the leaves assume a greener hue. Wherever it abounds we may in general look on it as a sure indication of a dry, barren soil. *HALLER* observes, that it is often found growing in Coal-yards (*areis carbonariorum*).

Agriculturally considered, we must number it with the weeds, and with those too, from its creeping roots, of difficult extirpation.

It is found in flower from June to September.





*Pimpernia tectosella*













*Spergula arvensis.*



# SPERGULA ARVENSIS. CORN SPURRY.

SPERGULA *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SPERGULA *arvensis* foliis verticillatis, floribus decandris. *Linn. Syst. Vegetab.* p. 363. *Sp. Pl.* p. 630. *Flor. Suec.* n. 419.

ALSINE foliis verticillatis, seminibus rotundis. *Haller. hist.* n. 873.

ALSINE *spergula dicta major.* *Baubin. Pin.* 251.

SAGINA *Spergula.* *Ger. emac.* 1125.

SAGINA *Spergula major.* *Parkinsf.* 562. *Raii Syn.* p. 351. *Spurrey. Hudson. Fl. Angl. ed. 2.* p. 203. *Lightfoot Fl. Scot.* p. 243.

RADIX annua, fibrosa.

CAULES plures, spithamæ, seu pedales, suberecti, teretes, læves, superne viscosi, geniculis globosis.

STIPULÆ ad genicula binæ, brevissimæ, apicibus inferiorum reflexis.

FOLIA verticillata, fasciculos duos constituentia, foliolis octo circiter in quovis fasciculo, interioribus sensim minoribus, linearia, teretia, apicibus flavis, dorso lineâ exarato, superioribus viscosis.

FLORES albi, pulchelli, paniculati, panicula dichotoma.

PEDUNCULI viscosi, peractâ florecentiâ penduli.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, obtusiusculis, concavis, patentibus, persistentibus, marginibus albidis, *fig. 1.*

COROLLA: PETALA quinque, ovata, acutiuscula, concava, calyce longiora, ungue brevi affixa, *fig. 2.*

STAMINA: FILAMENTA decem, alba, subulata; ANTHERÆ subrotundæ, flavæ, *fig. 3.*

PISTILLUM: GERMEN subrotundum; STYLI quinque, breves, reflexi; STIGMATA simplicia, *fig. 4.*

PERICARPIUM: CAPSULA ovata, tecta, unilocularis, quinquevalvis, *fig. 5.*

SEMINA plurima, majuscula, nigricantia, depresso-globosa, punctis rufis prominulis ad lentem exasperata, annulo manifeste cincta, *fig. 6, 7.*

ROOT annual and fibrous.

STALKS numerous, about a span or a foot in length, nearly upright, round, smooth, on the upper part clammy, joints globular.

STIPULÆ growing in pairs at the joints, very short, the tips of the lower ones reflexed.

LEAVES growing in whirls, and forming two bundles, about eight in each bundle, the inner ones gradually smallest, linear, round, tips yellow, with a deep furrow on the back, the upper ones clammy.

FLOWERS white, pretty, growing in a panicle, which is dichotomous.

PEDUNCLES clammy, hanging down when the flowering is over.

CALYX: a PERIANTHIUM of five leaves, the leaves ovate, bluntish, concave, spreading, permanent, the edges whitish, *fig. 1.*

COROLLA: five PETALS, ovate, a little pointed, concave, longer than the calyx, affixed by a short claw, *fig. 2.*

STAMINA: ten FILAMENTS, white, tapering; ANTHERÆ roundish and yellow, *fig. 3.*

PISTILLUM: GERMEN roundish; STYLES five, short, reflexed; STIGMATA simple, *fig. 4.*

SEED-VESSEL: an ovate CAPSULE covered, by the remaining calyx, of one cavity and five valves, *fig. 5.*

SEEDS numerous, rather large, blackish, round, with a small degree of flatness, if viewed with a magnifier beset with small, reddish, prominent points, and encircled with a manifest ring, *fig. 6, 7.*

The *Spergula arvensis* is seldom found but in a sandy soil; and as that kind of soil does not abound much in the neighbourhood of London, so this species of *Spergula* may be considered as one of our plantæ rariores. On some parts of Hampstead-Heath, and in the neighbourhood of the Spaniard, we have often noticed it, as well as in the sand-pits at Charlton. In some sandy fields near Carshalton, in Surrey, we have seen it so plentiful as to appear like the intended crop. As no use is made of it with us, it may be considered as one of the worst weeds to which a sandy soil is subject. Abroad, however, it is an object of cultivation. In some parts of Flanders, Germany, and Norway, they feed their cattle with the plant, and their poultry with its seeds; but as Tares and Buck-wheat, which are far more productive, as well as nutritious, may be cultivated in a similar soil, our Farmers do wisely in rejecting it.

It is found in blossom from July to September.

We have not found this plant unusually subject to vary in the number of its stamina; nor have we observed it to vary so much in any other respect as to make us suspect we had seen the *Spergula pentandra* of LINNÆUS, which Mr. HUDSON makes a variety of the *arvensis*, contrary to the opinion of some of the greatest authorities. If the difference betwixt these two plants was to depend solely on the number of its stamina, we should be extremely ready to consider them as the same; but RAY, whose opinion must be allowed to have great weight, describes the *pentandra* as a species totally distinct from the *arvensis*. He does not found his specific difference on the number of its stamina; but on characters, less subject to variation: the leaves at the joints, he observes, are fewer and thicker, the plant flowers early, and soon goes off (neither of which takes place in the *arvensis*); and adds, that Dr. SHERHARD observed it in sandy places in Ireland.

To shew that other Authors have likewise entertained an opinion of its being a distinct species, we shall quote their respective synonyms.

*Spergula foliis filiformibus verticillatis raris seminibus nigris.* *Sauv. Monsp.* 167.

*Albine spergulæ facie minima seminibus emarginatis.* *Tourn. inst.* 244. *Vaill. Paris* 8.

*Albine spergulæ facie minima.* *Magn. Monsp.* 14.

*Arenaria teretifolia verna, flore albo, semine limbo foliaceo cincto.* *Rupp. Jen.* 101.

*Spergula annua, semine foliaceo nigro circulo membranaceo albo cincto.* *Moris hist.* 2. p. 551. *blaf.* 28. *Dill Gifs* 46. *E. N. C. cent.* 5 p. 275. t. 4.

On these several authorities we cannot but conclude, that there exists such a plant as the *Pentandra*; nor can we avoid expressing a wish, that some gentleman, whose residence may afford him an opportunity of observing its history, will favour us with a more complete account of it.











# AGARICUS AURANTIUS. ORANGE MUSHROOM.

AGARICUS *Linnaei Gen. Pl* CRYPTOGAMIA FUNGI.

*Fungus horizontalis subtus lamellofus.*

*Raii Syn. Gen. 1. FUNGI.*

AGARICUS *aurantius* pileo conico viscido aurantio, lamellis luteis, stipite nudo. *Lightfoot. Flor. Scot. p. 1025.*

AMANITA glutinosus, flavus, pileo umbonato. *Haller. hist. n. 2420.*

FUNGUS parvus, lubricus, aureus, lamellis raris, amplioribus, pediculo crassiore. *Mich. p. 147.*

FUNGUS aurantii coloris capitulo in conum abeunte. *Vaillant Bot. Par. p. 67.*

FUNGUS pratensis minor, externe viscidus, striis subtus fulvis seu croceis. *Raii Syn. p. 8. n. 38.!*

In pascuis elatioribus solitarius plerumque invenitur, sat copiose nobiscum.	Found plentifully enough with us in elevated pastures, and for the most part singly.
STIPES uncialis, ad triunciale, nudus, fistulosus, fragilis, et admodum fissilis, crassiusculus, subtiliter striatus, lævis, sæpe tortuosus, plerumque croceus.	STALK from one to three inches high, naked, hollow, brittle, and much disposed to split, thickish, finely striated, smooth, often twisted, and for the most part saffron-coloured.
PILEUS uncialis, aut biuncialis, raro triuncialis, utplurimum conicus, præsertim in junioribus, lubricus, et subviscidus, primo coccineus, dein croceus, seu aurantius, demum niger; nonnulli formam conicam retinent usque ad dissolutionem, alii plani fiunt vertice tumefcente.	STALK one or two, seldom three inches broad, generally conical, especially when young, slippery, and somewhat clammy, at first of a bright scarlet colour, then saffron or orange-coloured, and finally black; some preserve their conical form even in decay, others become flat with a prominent crown.
LAMELLÆ primo albidæ, dein subcroceæ, si contundantur statim nigrescentes.	GILLS first whitish, afterwards somewhat saffron-coloured, on being bruised quickly becoming black.

As this Fungus is so distinguishable for its colours, so distinct in its specific characters, and withal so common, it is matter of admiration that we do not find more notice taken of it by Authors. Mr. LIGHTFOOT in his *Flora Scotica* has given an accurate description of it, which cannot fail of making it known: he quotes SCHÆFFER's figure, which represents our plant, and adopts his name of *aurantius*. Mr. HUDSON does not mention it; and we are not certain whether the plant we refer to in RAY be ours or not. As well as Mr. LIGHTFOOT, we had our doubts whether it was the *fragilis* of LINNÆUS; but considering his description, as well as that of VAILLANT, who gives a figure to which LINNÆUS refers, we are certain it must be a different plant. If the *fragilis* of Mr. HUDSON be the *fragilis* of LINNÆUS, it is a very different plant from ours indeed. *Vid. SCHÆFF. Ic. tab. 230.* to which he refers.

This Fungus is by no means uncommon in elevated pastures, particularly where Eye-bright grows. It is usually dwarfish on heaths; but where the grass is not close fed, it is found with a stalk three inches high. The brilliancy of its colour soon strikes the eye. We may observe, that this colour is most vivid, or most inclined to red in the young ones. As it grows old, it becomes yellower, and quickly changes quite black. Indeed it has an extraordinary tendency to turn black, not only from age, but from the slightest bruise. The stalk is also brittle, and very apt to split.

It is found in perfection about the middle of September.

It does not possess any particular acrimony; but is not numbered with such as may be eaten with safety.





*Agaricus aurantius.*













*Agaricus aruginosus.*



# AGARICUS ÆRUGINOSUS. VERDIGRIS MUSHROOM.

AGARICUS *Linnaei Gen. Pl. CRYPTOGAMIA FUNGI.*

*Fungus horizontalis, subtus lamellosus.*

*Raii Syn. Gen. 1. FUNGI.*

AGARICUS *æruginosus* stipitatus, annulatus, annulo superne nigricante; pileo convexo, cæruleo, viridi, viscoso, lamellis purpureo-fuscis.

AGARICUS *viridis* stipitatus pileo convexo viridi, lamellis albidis, stipite longo virescente. *Hudson Fl. Angl. p. 614.*

AMANITA annulatus, pileo convexo cæruleo viridi, lamellis roseo cæruleis. *Haller. hist. n. 2444.*

FUNGUS medius pileo mucro æruginei coloris obducto. *Raii Syn. ed. 3. p. 6. Deering Catal. Stirp. p. 80.*

FUNGUS pileolo cucullato, viscido, intenso viridi, et quasi vernigine oblito, inferne lamellis et pediculo albis. *Micheli p. 152.*

AGARICUS. *Schæf. Icon. tab. 1.*

Solitarius, et cæspitosus in sylvis et pascuis nascitur, rarior nobiscum.	Grows singly, and in clusters, in woods and pastures, scarce with us.
STIPES biuncialis, seu triuncialis, ex albo virescens, fistulosus, annulatus, infra annulum floccosus, teres, subfragilis, supra annulum lævis, striatus, ad basin lanuginosus, raro strictus.	STALK two or three inches high, of a greenish white colour, hollow, ruffled, below the ruffle shaggy, round, somewhat brittle, above the ruffle smooth, and slightly striated, at the base woolly, seldom perfectly straight.
ANNULUS persistens, tenuis, superne striatus, e fusco nigricans, inferne virescens.	RUFFLE permanent, slender, on the upper side striated and of a blackish purple colour, on the under side greenish.
PILEUS unciam aut duas latus, primo convexo-conicus, ex cæruleo-viridis, lubricus et subviscidus, lævis, prope marginem et in margine ipsa floccis albidis adpersus, demum planus aut parum concavus, e fusco-lutescens, cuticula facile separanda.	CAP from one to two inches broad, at first somewhat roundish, yet conical, the colour of verdigris, slippery and somewhat viscid, smooth, except near the edge, and on the edge itself, where it is covered with a whitish, shaggy substance, finally flat, or a little concave, of a yellowish brown colour, the cuticle easily peeled off.
LAMELLÆ numerosæ, brevioribus interjectis, e fusco-purpurascens, parum nebulosæ, demum nigricantes.	GILLS numerous, with shorter ones intervening, of a brownish purple colour, a little clouded, finally blackish.

Amidst that variety of colour observable in the Fungi, there are few in which the green predominates so much as in the present species: hence it affords an obvious character. But, alas! in these plants of a day, we must not lay too much stress on colour: *nimum ne crede colori* cannot be better applied to any subject. It is, however, chiefly in its decline that it loses that verdigris green, which on its first appearance renders it so conspicuous, the cap being often found of a pale yellowish brown colour, and sometimes variegated with green, yellow, and black. The viscosity of the cap is as constant a character as its green colour, and this also is most observable in the young ones, especially in the morning, or in showery weather; for in a very dry atmosphere the most viscid Fungi lose their viscosity. Next to the greenness and viscosity of the cap, we may remark, that the edge of it, where it breaks from the annulus, is very apt to be ragged: we have also found, that the outer skin of the cap has an unusual tendency to separate from the flesh. The gills, from the very beginning, are of a purplish brown colour; and the annulus or ruffle, while connected to the edge of the pileus, receives from the gills a fine powder, which communicates to the upper part of it a dark brown tint; this, contrasted with the light colour on the underside, forms a very conspicuous character. The stalk below the ruffle is usually of a blueish green colour, and shaggy.

This Fungus is not very common with us. Several of them appeared this autumn, in a grass plat in my garden; and I have observed twenty or thirty in Earl Mansfield's little wood near the Spaniard, Hampstead-Heath, where, if the season be not remarkably unfavourable, they are with certainty to be found about the middle of September.

It has no acrid or disagreeable taste; nevertheless, we do not venture to pronounce it an eatable one.

RAY's description, though a short one, and SCHÆFFER's figure, accord exactly with our plant. HALLER quotes SCHÆFFER: we therefore conclude from that circumstance, as well as from the consonancy of his description, that our plant is the same as his; and MICHELI, who is also quoted by HALLER, gives a description so exactly corresponding with RAY's, that we have no doubt but his also is the same as ours. Whether our plant be the *viridis* of Mr. HUDSON, we have our doubts; for he quotes authors who describe two different Fungi; at the same time that he quotes SCHÆFFER, *tab. 1.* (our plant), and HALLER, *n. 2444.* (our plant), he refers to MICHELI, RAY, and SCOPOLI, who describe another Fungus. SCOPOLI gives to his the name of *virens*; part of his DIAGN. is *Stipes nudus*. RAY quotes the *Fungus magnus viridis* of STERBECK, and the *sylvarum asper esculentus, seu ex albo virescens* of J. BAUHINE: and MICHELI thus describes his, *Fungus esculentus, pileo pulvinato, viridi, inferne cum pediculo albo*. This description is quoted by SCOPOLI for his *virens*. Thus it would appear that these two are different species; we must leave it to Mr. HUDSON to reconcile these contradictory synonyma.

It could be wished, that every Fungus was as distinct in its characters as the present, we should then soon see order spring from that chaos in which this tribe of plants has been considered as so long involved; not but that chaos which LINNÆUS and other Botanists have so much lamented, is rather to be considered as a creature of their own imagination than as the child of nature. The more we look into these variable plants, the more we are convinced that our ignorance of them depends on our inattention and want of observation. Bestow the same pains on them as on other plants, observe them in all their states, in all their varieties of situation, and we shall find that each of them has some peculiarity of character. The discovery of this character is what we should aim at; but this will not be found in the closet. We may read over, with the most sedulous attention, BATTARRA, MICHELI, GLEDITSCH, and HALLER, or turn over the multitudinous plates of SCHÆFFER to little purpose: to know the Fungi well we must watch them daily and yearly; in short *we must live with them*.











# TRIFOLIUM PROCUMBENS. PROCUMBENT TREFOIL.

TRIFOLIUM *Lin. Gen. Pl. DIADELPHIA DECANDRIA.*

*Flores subcapitati. Legumen vix calyce longior, non deciduus, deciduum.*

*Raii Syn. Gen. 24. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.*

TRIFOLIUM *procumbens* spicis ovalibus imbricatis: vexillis deflexis persistentibus, caulibus procumbentibus. *Linnæi Syst. Veg. p. 574. Sp. Pl. 1088. Fl. Suec. n. 673.*

TRIFOLIUM spicis strepentibus paucifloris, caulibus erectis. *Haller hist. 364.*

TRIFOLIUM luteum flore lupulino minus. *I. B. II. 381.*

TRIFOLIUM lupulinum alterum minus. *Raii Syn. p. 330. a. 17. The lesser Hop-Trefoil. Hudsn. Fl. Angl. ed. 2. p. 328. Lightfoot Flor. Scot. p. 409.*

RADIX annua, fibrosa.

CAULES plures, spithamæi, pedales et ultra, teretes, duriusculi, pilis adpressis pubescentes, præsertim ad extremitates, purpurei, procumbentes, ramosi.

FOLIA terna, petiolata, remota, inferiora obcordata, superiora obovata, plerumque emarginata, ad apicem argute ferrata, plerumque lævia, venis rectis, simplicibus, utrinque impressis.

PETIOLI breves, longitudine stipularum.

STIPULÆ binæ, ovatæ, acutæ, quinquenerves, ad margines pilosæ, basi amplexicaules.

PEDUNCULI unciales circiter, pubescentes.

SPICÆ subrotundæ, multifloræ (raro infra octo, aut ultra viginti) laxius imbricatæ.

FLORES parvi, lutei, pedicellis brevissimis, infidentes.

CALYX: PERIANTHIUM quinquedentatum, persistens, subpilosum, dentibus tribus inferioribus longioribus, subulatis, *fig. 1.*

COROLLA papilionacea, persistens, marcescens, demum rufa, venis saturatoribus striata, *fig. 2.*

PERICARPIUM: LEGUMEN ovatum, compressum, monospermum, deorsum reflexum, corollâ persistente inclusum, *fig. 3.*

ROOT annual and fibrous.

STALKS several, a span, or even a foot or more in length, round, hardish, downy, with hairs pressed close to the stalk, particularly at the extremities, purple, procumbent, and branched.

LEAVES growing three together, remotely, standing on foot-stalks, the lowermost obcordate, the uppermost obovate, for the most part emarginate, towards the top finely ferrated, commonly smooth, the veins straight, unbranched, impressed on each side of the leaf.

LEAF-STALKS short, the length of the stipulæ.

STIPULÆ growing in pairs, ovate, pointed, five-ribbed, edged with hairs, and at the base embracing the stalk.

FLOWER-STALKS about an inch in length and downy.

SPIKES roundish, many flowered, flowers seldom fewer than eight or more than twenty, loosely imbricated.

FLOWERS small and yellow, sitting on very short foot-stalks.

CALYX: a PERIANTHIUM with five teeth, permanent, and somewhat hairy, the three lowermost longer than the rest, and awl-shaped, *fig. 1.*

COROLLA papilionaceous, permanent, and withering, finally becoming of a reddish brown colour, and striped with veins of a deeper colour, *fig. 2.*

SEED-VESSEL an ovate, flat Pod, turning backward, inclosed in the corolla, which continues, and containing one seed, *fig. 3.*

The *Trifolium procumbens* is often found larger, but more frequently much smaller, than the specimen we have here figured. When it grows luxuriantly it bears a near resemblance to the *agrarium* already published: but in that species the spikes are not only much larger, but also much more closely imbricated, compared with the *procumbens* the *agrarium* may be considered with us at least as a scarce plant; while that is found only in certain spots, the *procumbens* is met with every where, there being scarcely a dry, hilly pasture, or grass plat, on which it may not be found. In its dwarf state it comes very near to the *filiforme* figured in *Ray's Synopsis, tab. 14. fig. 4.* Indeed it is very difficult to assign their respective limits; but both Mr. HUDSON and Mr. LIGHTFOOT agree in making the *filiforme* a distinct species; and the latter assures us, that culture proves them to be specifically different.

All the Trefoils are considered as affording excellent pasturage and fodder for cattle. The present species is, perhaps, not inferior to any of them in these respects; but the quantity it affords is so trifling, that it can scarcely be thought worth cultivating, especially as it is only an annual.

It flowers during the greatest part of the summer.

HALLER describes it as growing upright, which it never does with us, unless drawn up by surrounding herbage.





*Mimulus purpureus*













*Prenanthes muralis.*



# PRENANTHES MURALIS. IVY-LEAVED WILD LETTUCE.

PRENANTHES *Linnaei Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Recept. nudum. Calyx calyculatus. Pappus simplex, subseffilis. Flosculi simplici serie.*

*Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTIS.*

PRENANTHES *muralis* flosculis quinis, foliis runcinatis. *Linn. Syst. Vegetab. p. 596. Sp. Pl. 1121. Fl. Suec. n. 692.*

PRENANTHES foliis ferratis pinnatis, pinna suprema triangulari trilobata. *Haller. hist. n. 18.*

PRENANTHES *muralis. Scopoli Fl. Carn. n. 964.*

LACTUCA *sylvestris murorum flore luteo. I. B. II. 1004.*

SONCHUS *lævis laciniatus muralis parvis floribus. Baubin. Pin. 124.*

SONCHUS *lævis muralis. Ger. emac. 293.*

SONCHUS *lævis alter parvis floribus. Park. 805. Raii Syn. p. 162. Ivy-leaved Sow-thistle, or Wild Lettuce. Hudson. Fl. Angl. ed. 2. p. 338. Lighfoot Fl. Scot. p. 431.*

RADIX perennis, ramosa, pallide fusca, lactescens.	ROOT perennial, branched, of a pale brown colour, and milky.
CAULIS pedalis ad tripedalem, erectus, simplex, foliosus, superne subflexuosus, teres, glaucus, purpurascens.	STALK from one to three feet high, upright, simple, leafy, somewhat crooked towards the top, round, glaucous, and purplish.
FOLIA radicalia Soncho oleraceo persimilia, inferne purpurea, caulina alterna, amplexicaulia, patentia.	LEAVES next the root very like those of the common Sow-thistle, purple on the under side, those of the stalk alternate, spreading, and embracing it.
FLORES parvi, lutei, erecti, paniculati.	FLOWERS small, yellow, upright, growing in a panicle.
PANICULA ampla, nuda, ramosissima, purpurascens.	PANICLE large, naked, exceedingly branched, and purplish.
CALYX communis cylindraceus, glaber, purpurascens, squamis cylindri numero corollularum, squamis ad basin cylindri tribus brevissimis inæqualibus, fig. 1.	CALYX: the common Calyx cylindrical, smooth, purplish, the scales of the cylinder as numerous as the florets, with three, very short, unequal small ones at its base, fig. 1.
COROLLA composita, Corollulæ hermaphroditæ plerumque quinque, æquales, in orbem simplicem positæ, latiusculæ, nervosæ, quinquedentatæ, fig. 2.	COROLLA compound, Florets hermaphrodite, usually five in number, equal, forming a single circle, broadish, ribbed, terminated by five teeth, fig. 2.
STAMINA: FILAMENTA quinque, capillaria, brevissima, flava; ANTHERÆ cylindraceæ, tubulosæ.	STAMINA: five capillary FILAMENTS, very short and yellow; ANTHERÆ forming a hollow cylinder.
PISTILLUM: GERMEN subovatum; STYLUS filiformis, staminibus longior; STIGMA bifidum, reflexum, fig. 3.	PISTILLUM: GERMEN subovate; STYLE filiform, longer than the stamens; STIGMA bifid and reflexed, fig. 3.
SEMEN oblongum, basi acuminatum, nigrum, striatum: PAPPUS brevissime petiolatus, simplex, fig. 4.; lente auct. fig. 5.	SEED oblong, pointed at the base and striated: Down standing on a very short foot-stalk, simple, fig. 4.; magnified, fig. 5.

Some of the old Botanists considered this plant as a *Lactuca*; others as a *Sonchus*. It approaches nearest to the former, both in its fructification and habit, not but the foliage is very like that of the *Sonchus oleraceus*. LINNÆUS, from the paucity of its florets, makes a distinct genus of it, though number seems scarcely sufficient to constitute a generic character. This paucity of florets (there being seldom more than five) at once distinguishes it however from all its kindred; but at the same time we have known it not a little to puzzle students beginning to learn the classes, and who had studied them from such flowers as Dandelion.

It is not a very common plant with us, but is met with occasionally on walls, in woods, and other shady places. We observed plenty of it this year on the outside of the pales which terminate the Terrace at the Spaniard, Hampstead-Heath, on the declivity towards Lord Mansfield's little wood.

It flowers from July to September.











# PAPAVER ARGEMONE. LONG PRICKLY-HEADED POPPY.

PAPAVER *Lin. Gen. Pl.* POLYANDRIA MONOGYNIA.

*Cor.* 4 petala. *Cal.* 2 phyllus. *Capsula* 1-locularis, sub stigmate persistente poris dehiscens.

*Raii Syn. Gen.* 22. HERBÆ VASCULIFERÆ, FLORE TETRAPETALO ANOMALÆ.

PAPAVER *Argemone* capsulis clavatis hispidis, caule folioso multifloro. *Lin. Syst. Vegetab.* p. 407. *Spec. Pl.* 725. *Fl. Succ.* n. 466.

PAPAVER foliis hispidis, pinnatis, pinnis lobatis, capitulis ellipticis, hispidis. *Haller Hist.* n. 1063.

PAPAVER *Argemone.* *Scopoli Fl. Carn.* n. 636.

ARGEMONE capitulo longiore. *C. Baub. Pin.* 172. *Ger. emac.* 273. *Park.* 370.

PAPAVER laciniato folio, capitulo hispido longiore. *Raii Syn.* p. 308. Long rough-headed bastard Poppy. *Hudson. Fl. Angl. ed. 2.* p. 230. *Lightfoot Fl. Scot.* p. 279.

RADIX annua, simplex, fibrosa.

CAULIS: ubi læte crescit caules profert plures, pedales, et ultra, foliosos, adscendentes, hirsutos, inter segetes vero caule solitario erecto sæpius gaudet.

FOLIA radicalia plurima, longe petiolata, pinnata, pinnis inciso-dentatis, dentibus mucronatis, caulina tripartita, pinnatifida, omnibus pilosis, superne saturate viridibus, nitidis, inferne pallidioribus.

PEDUNCULI pilosi, pilis adpressis.

CALYX: PERIANTHIUM diphyllum, seu triphyllum, deciduum, papilloso-hispidum.

COROLLA: PETALA quatuor, miniata, suberecta, remotiuscula, obverse ovata, apice crenulata, basi nigricantia, maxime caduca, *fig. 1.*

STAMINA: FILAMENTA viginti circiter, purpurea, plana, apice dilatata, nitida. ANTHERÆ brevissime pedicellatæ, biloculares. POLLEN cærulescens, *fig. 2.* auct. *fig. 3.*

PISTILLUM: GERMEN longitudine filamentorum, clavatum, subangulatum, hispidum, pilis canis, adpressis. STIGMATIS radii 3 ad 5 villosi, cærulescentes, *fig. 4.*

PERICARPIUM: CAPSULA oblonga, clavata, subangulosa, hispida, inferne nudiuscula, purpurascens, *fig. 5.*

SEMINA plurima, minuta, nigricantia, *fig. 6, 7.*

ROOT annual, simple, and fibrous.

STALK: where the plant grows luxuriantly, it puts forth several leafy, hairy stalks, a foot or more in height, and bending upwards, but among corn it is most commonly found with a single upright stem.

LEAVES next the root numerous, standing on long foot-stalks, pinnated, the pinnæ deeply indented, the teeth terminating in a short point, those of the stalk deeply divided into three segments which are pinnatifid, all the leaves are hairy, on the upper side of a deep green colour, and shining, on the underside paler.

FLOWER-STALKS hairy, hairs pressed close to the stalk.

CALYX: a PERIANTHIUM composed of two or three leaves, deciduous, hispid; the hairs issuing from small papillæ or prominent points.

COROLLA: four PETALS, of a scarlet colour, nearly upright, a little distant from each other, inversely ovate, finely notched at top, and blackish at the base, *fig. 1.*

STAMINA: about twenty FILAMENTS, of a purple colour, flat, dilated at top, and shining. ANTHERÆ standing each on a very short foot-stalk, having two cavities. POLLEN blueish, *fig. 2.* one of the stamina magnified, *fig. 3.*

PISTILLUM: GERMEN the length of the filaments, thickest at top, somewhat angular, hispid, the hairs grey and pressed to it. STIGMA composed of 3 to 5 villous rays, of a bluish colour, *fig. 4.*

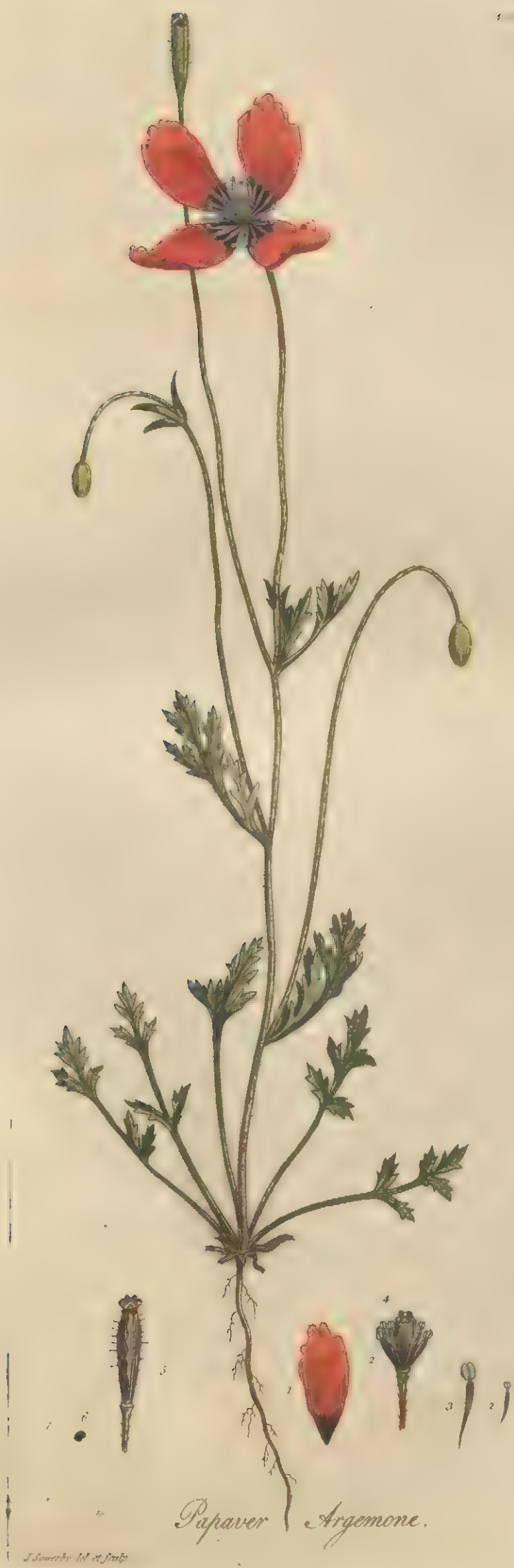
SEED-VESSEL: an oblong, club-shaped CAPSULE, somewhat angular, hispid, below for the most part naked, of a purplish colour, *fig. 5.*

SEEDS numerous, minute, and blackish, *fig. 6, 7.*

This species of Poppy is distinguished by a variety of particulars besides its long prickly heads, which, though not absolutely necessary to discriminate the species, are well worthy of our attention. The divisions of the leaves are finer than in any of the other poppies. The petals in general grow more upright; and, instead of having the edges falling over each other, are usually a little distant. The stamina are very remarkable, having the filaments uncommonly dilated towards the top, not at the base, as HALLER asserts; and the Antheræ stand on a very slender foot-stalk placed on the top of each filament.

Like most of the other poppies it usually grows in corn fields, and is not very unfrequent in the neighbourhood of London. About the beginning of June it blossoms in Battersea Fields; but is often overlooked from the extreme fugacity of its petals, which rarely continue expanded more than six hours.





*Papaver Argemone.*













*Leontodon hispidum.*

*L. hispidum. det. et. f. v. p.*



# LEONTODON HISPIDUM. ROUGH DANDELION.

LEONTODON *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Recept. nudum. Calyx imbricatus, squamis laxiusculis. Pappus plumosus.*

*Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.*

LEONTODON *hispidum* calyce toto erecto, foliis dentatis integerrimis hispidis: fetis furcatis. *Lin. Syst. Vegetab. p. 596. Sp. Pl. 1124. Fl. Suec. n. 694.*

HEDYPNOIS scapo nudo unifloro, foliis lanceolatis dentatis hispidis. *Hudson Fl. Angl. 340.*

PICRIS caule nudo, unifloro, foliis asperis dentatis. *Haller. Hist. n. 25.*

LEONTODON *hispidum. Scopoli Fl. Carn. n. 977.*

TARAXACONOIDES perennis et vulgaris. *Vaill. Aët. 1721, p. 232.*

HIERACIUM asperum folio magno dentis leonis. *Bauh. Pin. 127.*

HIERACIUM dentis leonis folio hirsutum. *Ger. em. 303.*

HIERACIUM asperum foliis et floribus dentis leonis bulbofi. *Park. 788.*

DENS LEONIS hirsutus λεπτόκαυλον. Hieracium dictus. *Raii Syn. p. 171. Rough Dandelion commonly called Dandelion Hawkweed. Lightfoot Fl. Scot. p. 433.*

RADIX perennis, obliqua, e nigro-fusca, plurimis fibris pallidioribus, in terram recte demissis capillata.	ROOT perennial, oblique, of a blackish brown colour, furnished with numerous fibres of a paler colour, running straight into the earth.
SCAPI plerumque plures ex eadem radice, pedales aut sesquipedales, erecti, teretes, fistulosi, hirsuti, simplices, nudi, subinde foliolo sive pluribus instructi, superne obvie striati et incrassati, ad basin purpurei.	STALKS usually several from the same root, a foot or a foot and a half high, upright, round, hollow, hirsute, simple, naked, now and then furnished with one or more small leaves, above obviously striated and thickened, purple at the base.
FOLIA radicalia plurima, in pratis suberecta, in apricis supra terram expansa, palmaria seu spithamea, petiolata, oblonga, sinuato-dentata, obtusiuscula, pallide viridia, hirsuta, pilis ut etiam scapi furcatis.	LEAVES: radical leaves numerous, in meadows nearly upright, in exposed situations expanded on the ground, a hand's breadth or more in length, standing on foot-stalks, oblong, indented and toothed, bluntish, of a pale green colour, hirsute, the hairs as also those of the stalk forked at the extremity.
FLORES majusculi, lutei, ante florescentiam semper nutantes.	FLOWERS largish, yellow, before blowing always drooping.
CALYX fordide virens, squamæ laxè imbricatæ, inæquales, pilis longis albidis plerumque simplicibus hirsutæ.	CALYX of a dingy green colour, scales loosely imbricated, unequal, rough with long whitish hairs, which are for the most part simple.
COROLLA composita, æqualis, flosculi quinquedentati, tubus superne pilosus, fig. 2.	COROLLA compound, equal, florets furnished with five teeth, the tube hairy on the upper part, fig. 2.
SEMINA oblonga, sublinearia, longitudine fere pappi, exteriores paululum incurvati, interiores recti, ad lentem transverse rugosi, fig. 3.	SEEDS oblong, nearly linear, almost the length of the pappus, the outer ones bending a little inward, the innermost ones straight, when magnified transversely wrinkled, fig. 3.
PAPPUS pilosus, sessilis, fig. 4.	DOWN hairy, and sessile, fig. 4.
RECEPTACULUM planum, nudum, punctatum.	RECEPTACLE flat, naked and dotted.

Like the other plants of the class *Syngenesia*, the *Leontodon hispidum* is subject to vary considerably in size and hairiness; but very luckily it has one character which attends it in all its states, and which never fails to distinguish it, its blossoms droop while in the bud: striking as this character is, we believe it has escaped the observation of former Botanists, at least it has not been considered as of the first consequence in ascertaining the species. The singleness of its stalks also contributes to distinguish it from some other plants of the same class, while the hairs on the leaves afford a more minute distinction, being usually bifid, but not always so.

As far as we have had opportunity of observing, it is a very general plant throughout the kingdom, especially where there is chalk or lime-stone. In such sort of pastures it abounds as much as the common Dandelion does in rich cultivated ones, and when in flower, which is usually in July, cloaths them in the same golden livery.

As it forms so considerable a part of our pasturage, it is of some consequence that we should know whether Cattle are fond of it, either fresh or made into hay; and we wished to lay before our readers the result of LINNÆUS or his Pupils experiments on this head; but, though a Swedish plant, it unfortunately proved to be one of those with which no experiments were made.

The common Dandelion, according to the Linnæan character, is certainly no *Leontodon*, the pappus being simple, and SCOPOLI has accordingly made another genus of it, *Hedypnois*.

Mr. HUDSON has united the present plant, the *Leontodon autumnale*, two species of *Crepis*, with the *Picris echinoides*, under one genus of the same name *Hedypnois*; and HALLER arranges our plant with his *Picris*. Amidst all this confusion we have thought it best in the present instance to follow LINNÆUS, especially as there is nothing in the fructification of our plant which militates against the generic character of his *Leontodon*.











# SHERARDIA ARVENSIS. FIELD SHERARDIA.

SHERARDIA *Lin. Gen. Pl.* TETRANDRIA MONOGYNIA.

*Cor.* 1-petala, infundibuliformis. *Semina* 2, tridentata.

*Raii Syn. Gen.* 12. HERBÆ STELLATÆ.

SHERARDIA *arvensis* foliis omnibus verticillatis, floribus terminalibus. *Lin. Syst. Vegetab.* p. 125. *Spec. Pl.* p. 149. *Fl. Suec.* n. 120.

SHERARDIA foliis senis lanceolatis, floribus sessilibus umbellatis. *Haller. Hist.* n. 734.

SCHERARDIA *arvensis*. *Scopoli Fl. Carn.* n. 143.

RUBEOLA *arvensis repens* cærulea. *Bauh. Pin.* 334.

RUBIA minor *pratensis* cærulea. *Parkins.* p. 276.

RUBEOLA parvo flore cæruleo se spargens. *I. B.* III. 719. *Raii Syn.* p. 225. Little field Madder. *Hudson Fl. Angl. ed. 2.* p. 66. *Lightfoot Fl. Scot.* p. 114.

RADIX annua, fibrosissima, fibrillis rufis.

CAULES palmares, spithamæi et ultra, humifusi, asperi, tetragoni.

FOLIA superiora verticillata, sena, seu quina, foliolis lanceolatis, inferiora numero sensim decreſcunt, et latiora fiunt, infima sæpius terna, ovata, femiverticillata, omnibus mucronatis, superne scabris.

FLORES umbellati, sessiles, parvi, læte purpurei.

PEDUNCULI axillares, solitarii, tetragoni, perfecta florescentia longitudine foliolorum.

CALYX INVOLUCRUM octophyllum, foliolis lanceolatis, carinatis, ciliatis.

CALYX PERIANTHIUM parvum, 6-dentatum, superum, persistens, fig. 1.

COROLLA monopetala, infundibuliformis. *Tube* cylindraceus, longus. *Limbus* quadripartitus, planus, laciniis acutis, fig. 2.

STAMINA: FILAMENTA quatuor ad apicem tubi posita, demisso polline reflexa. ANTHERÆ simplices, pallide purpureæ, fig. 3.

PISTILLUM: GERMEN didymum, oblongum, inferum, fig. 4. STYLUS filiformis, superne bifidus. STIGMATA capitata, fig. 5.

PERICARPIUM nullum; fructus oblongus, coronatus, longitudinaliter in duo semina separabilis.

SEMINA bina, oblonga, apice tribus acuminibus notata, hinc convexa inde plana, fig. 6, 7.

ROOT annual, extremely fibrous, the small fibres reddish brown.

STALKS a hand's breadth, half a foot or more in length, laying on the ground, rough and four-cornered.

LEAVES: those on the upper part of the stalk growing in whirls, five or six together, the leaves lanceolate, the lower leaves gradually decreasing in number, and becoming broader, the lowermost generally growing three together, ovate, and forming half a whirl, all of them terminating in a short point, and rough on the upper side.

FLOWERS growing in umbels, sessile, small, of a bright purple colour.

FLOWER-STALKS growing from the axæ of the leaves, solitary, four-cornered, when the flowering is over the length of the leaves.

CALYX: an INVOLUCRUM of eight leaves, which are lanceolate, keeled and edged with hairs.

CALYX: a small PERIANTHIUM, having six teeth, placed on the top of the germen and permanent, fig. 1.

COROLLA monopetalous, funnel-shaped. *Tube* cylindrical and long. *Limb* flat, divided into four sharp segments, fig. 2.

STAMINA: four FILAMENTS placed at the top of the tube, turning back on the shedding of the pollen. ANTHERÆ simple, pale purple, fig. 3.

PISTILLUM: GERMEN double, oblong, beneath the calyx, fig. 4. STYLE filiform, bifid at top. STIGMATA forming two small heads, fig. 5.

SEED-VESSEL none; the fruit oblong, crowned, separable longitudinally into two seeds.

SEEDS two together, oblong, furnished at top with three points, convex on one side and flat on the other, fig. 6, 7.

TOURNEFORT considered this plant as a species of *Aparine*. The more accurate DILLENIUS made a new genus of it, to which he gave the name of his friend and patron, that excellent English Botanist Dr. SHERARD. *Vid. Dill. Nov. Pl. Gen.* p. 96.

This small annual is a native of our corn fields, and common almost every where, flowering during the greatest part of the summer.

There is a neatness in its blossoms almost sufficient to recommend it as an ornamental plant: to any other use it does not appear to have the least pretensions.





*Therardia arvensis.*















# AGRIMONIA EUPATORIA. AGRIMONY.

AGRIMONIA *Lin. Gen. Pl.* DODECANDRIA DIGYNIA.

*Cal.* 5 dentatus, altero obvallatus. *Petala* 5. *Sem.* 2, in fundo calycis.

*Raii Syn. Gen.* 10. HERBÆ FLORE PERFECTO SIMPLICI SEMINIBUS NUÐIS SOLITARIIS SEU AD SINGULOS FLORES SINGULIS.

AGRIMONIA *Eupatoria* foliis caulinis pinnatis: impari petiolato, fructibus hispidis. *Lin. Syst. Veg.* p. 372. *Sp. Pl.* p. 643. *Fl. Succ.* n. 423.

AGRIMONIA foliis pinnatis, pinnulis alterne minimis. *Haller Hist.* 991.

AGRIMONIA *Eupatoria.* *Scopoli Fl. Carn.* n. 567.

EUPATORIUM veterum seu Agrimonia. *Bauh. Pin.* 321.

AGRIMONIA *Ger. emac.* 712.

AGRIMONIA vulgaris. *Park.* 594. *Raii Syn.* p. 202. Agrimony. *Hudson. Fl. Angl. ed. 2.* p. 206. *Lightfoot Fl. Scot.* p. 247.

RADIX	perennis, ramosa, rubescens, squamis nigricantibus obsessa.	ROOT	perennial, branched, of a reddish colour, beset with blackish scales.
CAULIS	pedalis ad tripedalem, erectus, teres, obsolete angulosus, hirsutus, rubicundus aut rubropunctatus, simplex vel ramosus.	STALK	from one to three feet high, upright, round, faintly angular, hirsute, reddish or dotted with red, single or branched.
FOLIA	alterna, subambrosiaca, hirsuta, interrupte pinnata cum impari, 5 vel 6 juga, pinnæ suboppositæ, sessiles, subovata, venosæ, serratæ, ciliatæ, pinnulæ plerumque integræ aut trifidæ.	LEAVES	alternate, somewhat fragrant, hirsute, interruptedly pinnated with an odd one at the end, composed of five or six pair of pinnæ, pinnæ mostly opposite, sessile, somewhat ovate, veiny, serrated, edged with hairs, the small pinnæ for the most part entire or trifid.
STIPULÆ	duæ, oppositæ, majusculæ, amplexicaules, patentes, profunde serratæ.	STIPULÆ	two, opposite, rather large, embracing the stalk, spreading, and deeply serrated.
BRACTEÆ	trifidæ, laciniis linearibus, hirsutis.	FLORAL-LEAVES	trifid, the segments linear and hirsute.
SPICA	terminalis, elongata, hirsuta, floribus breviter pedicellatis.	SPIKE	terminal, elongated, hirsute, the flowers standing on very short foot-stalks.
CALYX: PERIANTHIUM	monophyllum, quinquefidum, superum, persistens, laciniis ovatis, acutis, <i>fig.</i> 1. extra setis filiformibus, rigidis, apice purpureis, uncinatis, cinctum, <i>fig.</i> 2. intus substantia flava glandulosa clausum; <i>Involucrum</i> ad basin germinis diphyllum foliolis binis seu tridentatis, <i>fig.</i> 3.	CALYX:	a PERIANTHIUM of one leaf, divided into five segments, placed above the germen, and permanent, the segments ovate, pointed, <i>fig.</i> 1. externally surrounded with rigid, filiform, hooked, bristles, purple at the points, <i>fig.</i> 2. within closed with a yellow glandular substance; <i>Involucrum</i> at the base of the germen, composed of two leaves, each of which has two or three teeth, <i>fig.</i> 3.
COROLLA:	PETALA quinque, subovata, flava, patentia, sessilia, substantiâ glandulosâ calycis inserta, <i>fig.</i> 4.	COROLLA:	five PETALS, somewhat ovate, yellow, spreading, sessile, inserted into the glandular substance of the calyx, <i>fig.</i> 4.
STAMINA:	FILAMENTA undecim, seu duodecim, lutescentia, curvata, cum petalis inserta, ANTHERÆ didymæ, compressæ, <i>fig.</i> 5.	STAMINA:	eleven or twelve FILAMENTS, of a yellowish colour, bent and inserted with the petals. ANTHERÆ composed of two lobes and flattened, <i>fig.</i> 5.
PISTILLUM:	GERMEN inferum, <i>fig.</i> 6. STYLI duo, curvati, longitudine staminum. STIGMATA obtusa, <i>fig.</i> 7.	PISTILLUM:	GERMEN beneath the calyx, <i>fig.</i> 6. STYLES two, bent, the length of the stamina. STIGMATA blunt, <i>fig.</i> 7.
PERICARPIUM:	CAPSULA e calyce orta, nutans, extra sulcatum, superne cincta aristis uncinatis, unilocularis, <i>fig.</i> 8.	SEED-VESSEL	a CAPSULE, arising from the calyx, drooping, grooved on the outside, on the upper part surrounded with hooked beards, of one cavity, <i>fig.</i> 8.
SEMINA	duo, subrotunda, glabra, <i>fig.</i> 9.	SEEDS	two, roundish and smooth, <i>fig.</i> 9.

Agrimony is a plant of very general growth, being found not only in Europe, but in Virginia and Japan.

It has been chiefly regarded as a medicinal plant, and as such is often raised in gardens. Culture does not seem to produce any material change in its quality. Another species or variety, of foreign original, common also in our gardens, and differing little in appearance from our indigenous Agrimony, promises to be superior to it in virtue, as its taste is more aromatic, and its smell much stronger, and very agreeable. CASPAR BAUHINE calls it *Eupatorium odoratum*. FABIVS COLUMNA *Eupatorium Dioscoridis odoratum et aromaticum*. *Lewi's Disp. ed. Alk.* p. 29.

The leaves of Agrimony have a slightly bitterish, roughish taste, accompanied with an agreeable, though very weak, aromatic flavour. The flowers are in smell stronger, and more agreeable, than the leaves, and in taste somewhat weaker. They readily give out their virtues both to water and rectified spirit. The leaves impart to the former a greenish yellow, to the latter a deep green colour: the flowers yield their own deep yellow tincture to both menstrua. *Id.*

Agrimony is one of the milder corroborants; and in this intention is sometimes employed, especially among the common people, against habitual diarrhoeas, and cachectic and other indispositions, from a lax state of the solids. Infusions of the leaves, which are not ungrateful, may be drank as tea. It is sometimes joined with other ingredients in diet drinks for purifying the blood, and in pectoral Apozems. *Id.*

This plant delights in a dry soil, and grows almost every where, in this kingdom, in open pastures, in the borders of fields, and by the sides of hedges and ditches, flowering from July to September.

Cattle in general dislike and leave it untouched.











# AGARICUS CARNOSUS. FLESHY MUSHROOM.

AGARICUS *carnosus* pileo convexo albo, medio rufescente, lamellis confertis albis carne pilei duplo angustioribus.

In sylvis acerosis habitat nobiscum rarior, autumnovigens.	Found with us in pine woods in the autumn, scarce.
Solitarius plerumque invenitur, subinde cespitosus.	Is generally found growing singly, sometimes in clusters.
STIPES triuncialis et ultra, magnitudine fere digiti minimi, crassus, nudus, fistulosus, carne diametro tubi, firmus, albidus, sæpe rubro maculatus, parum striatus, basi intra folia pini emortua descendente.	STALK three inches high and upwards, almost the thickness of the little finger, clumsy, naked, hollow, the flesh the diameter of the tube, firm, whitish, often spotted with red, faintly striated, the base descending amongst the dead pine leaves.
PILEUS uncialis, ad triunciale, albidus, medio rufescens, et hinc inde maculis concoloribus adspersus, lævis, carnosus, carne multo, solido, albo, primo convexus, dein planiusculus, nec acris, nec lactescens.	CAP from one to three inches in diameter, reddish in the middle, and here and there blotched with spots of the same colour, smooth, fleshy, the flesh abundant, solid, white, first convex, finally almost flat, neither acrid nor milky.
LAMELLÆ numerosissimæ, albidæ, angustæ, sesquilineam latæ, brevioribus interjectis, demum rufescentes.	GILLS exceedingly numerous, whitish, narrow, a line and a half broad, shorter ones intervening, finally of a reddish brown colour.

We can find no certain traces of this fungus either in the figures or descriptions of authors; at least in those of our own country. This may perhaps arise, from its being a local, or at least not a common mushroom.

We have hitherto found it only in Lord Mansfield's small pine wood, Hampstead, and there in no great plenty; but having observed them in the same spot, and assuming the same character for several successive years, we are perfectly satisfied of its being a very distinct species. This autumn, Sept. 22, we found about twenty of them.

It is in some degree characterised by the singularity of its colour. We have few fungi that have a white Pileus, with a reddish disk, and that, together with the stalk, irregularly blotched with the same colour; but it is more distinguished by the quantity of flesh both in the Pileus and Stipes. It is this which gives it an unusual degree of firmness to the touch, and has induced us to bestow on it the name of *carnosus*.

Chewed, it discovers no unpleasant taste; but notwithstanding this circumstance, and notwithstanding its tempting appearance, we must, till we have further proofs of its innocence, place it at least among the suspicious fungi.





*Agaricus carnosus.*

*In locis delectis, fructu.*













*in color, del. et. fide.*

*Agaricus verrucosus.*



# AGARICUS VERRUCOSUS. WARTY MUSHROOM.

AGARICUS *Lin. Gen. Pl. CRYPTOGAMIA FUNGI.*

*Fungus horizontalis, subtus lamellosus.*

*Raii Syn. Gen. 1. FUNGI.*

AGARICUS *verrucosus* stipitatus, stipite bulboso, annulato, annulo laxo, pendulo, pileo verrucoso, lamellis albis.

AGARICUS *muscarius* stipitatus, lamellis dimidiatis solitariis, stipite volvato: apice dilatato, basi ovato. *Lin. Syst. Veg. p. 820. Spec. Pl. 1640. Fl. S. 449.*

AGARICUS *verrucosus* caulescens, pileo convexo cinereo, verrucis lamellisq.ue albis. *Hudson. Fl. Angl. p. 613. Lightfoot p. 1012.*

AMANITA petiolo procero fistuloso annulato, pileolo plano striato verrucoso fordido lamellis albis. *Haller Hist. n. 2397.*

AMANITA petiolo annulato, pileo fanguineo, lamellis albis. *Haller Hist. n. 2373.*

LEUCOMYCES gemmatus. *Batar. tab. 6. B.*

LEUCOMYCES speciosior. *Batarra tab. 6. A.*

AGARICUS *muscarius.* *Scopoli Fl. Carn. n. 1459.*

FUNGORUM perniciosorum. *Gen. 12. Spec. 4. Clus. p. 286. Schæffer. Icon. Fung. t. XX. LXXIV? XC. XCI. CCXLI. CCLVIII? CCLXI.*

Solitarie nascitur in sylvis frequens.

Frequent in woods growing singly.

STIPES palmaris et ultra, crassitie digiti minimi, seu intermedi, ad basin semper bulbosus, teres, ex albo-rubescens, et maculatus, non raro flavescens, annulatus.

STALK a hand's breadth or more in height, the thickness of the little or middle finger, always bulbous at its base, round, of a reddish white colour and spotted; not unfrequently yellowish, and furnished with a ring or ruffle.

ANNULUS magnus, persistens, pendulus, plerumque striatus, ex lamellis impressis.

RING or ruffle large, permanent, pendulous, for the most part striated.

PILEUS duas, tres, aut etiam quatuor uncias latus, primo subrotundus, dein hemisphericus, demum planus, ad marginem superne obsolete striatus, varii coloris, sæpius vero aut fordide ruber medio saturatius colorato, aut flavescens; plerumque verrucosus, interdum nudus, verrucis albidis.

CAP two, three, or even four inches broad, at first roundish, then hemispherical, lastly flat, on the upper side, faintly striated at the margin, various in its colour, but most commonly either of a dingy red; strongest in the middle, or yellowish, for the most part warty, sometimes bare, the warts whitish.

LAMELLÆ numerosæ, brevioribus interjectis, horizontalibus, primo albæ, demum fordide carneæ.

GILLS numerous, shorter ones intervening, horizontal, at first white; lastly of a dirty flesh colour.

Most modern authors consider the *Agaricus verrucosus* and *muscarius* as different species. Mr. LIGHTFOOT, suggests, that they may be only varieties differing in colour. Repeated examination has perfectly convinced us, that his conjecture is well founded; the *verrucosus* being with us by far the most common, we shall consider it as the species, and the *muscarius* as the variety: so singular and so beautiful is the variety, however, that we intend giving a separate plate of it.

Before we speak more particularly of these fungi, it will be proper to explain to some of our readers what is meant by a few terms made use of in describing this and three or four others, viz. *Volva*, *Annulus*, and *Velum*, parts which occur in some mushrooms, but not in others.

There are a few of these plants, which, on their first emerging from the earth, assume the appearance of an egg, and are enclosed in a kind of membranous shell or case; this case we call the *Volva*. If we cut the egg longitudinally down the middle, we may observe the inclosed fungus as yet unexpanded. Vid. *Schæffer Icon. Fung. tab. 244. fig. 1. 2. 3.* As the mushroom increases in size, it bursts open this *Volva*, and sometimes leaves it intirely behind, as in the *Phallus impudicus*; but more frequently the upper half of it is borne upwards on the *Pileus* or *Cap*, which not being sufficiently large to cover when the *Pileus* is expanded, it breaks in various directions, and appears in the form of a number of little knobs or warts irregularly scattered. Such then is the origin of the warts: as the membrane which forms them may sometimes be thinner than ordinary; or as it may be rubbed off as the mushroom pushes itself out of the ground; or destroyed by heavy rains, or other accidents; so we never find these warts alike either in number or shape in any two fungi, and frequently intirely wanting; but if no extraordinary accident happens, they will be found in every well-formed fungus of this species. We may remark, that the *Volva*, which we have thus described, is not the *Volva* of LINNÆUS; his *Volva* is our *Annulus*.



In many of the fungi the gills are covered and protected in their infancy by a membrane, more or less thick, totally independent of the Volva, attached to the edge of the Pileus one way, and round the stalk the other. While the membrane is visibly thus connected, which is just as the Pileus is beginning to expand, we call it the Velum or Veil, though generally the term is applied to those membranes which are remarkably thin, almost like a cobweb, and which, when the Pileus is expanded, leave little or no traces of their existence behind, as in the *Agaricus fascicularis*. The greatest part of this membrane in separating is generally left either with the Pileus or Stipes: sometimes what it leaves remains with the Pileus, and is only sufficient to give the edge a ragged or toothed appearance; but more commonly, where it is in any degree substantial, it leaves the Pileus, and attaches itself to the Stipes, where it either projects horizontally, as in the *seruginosus*; or becomes pendulous, as in the present species. This part, thus attached to the stalk, we call the *Annulus, Ring or Ruffle*.

There are three characters which distinguish the present species of mushroom, viz. a cap, more or less covered with warts; a stalk, bulbous at its base, and furnished above with a pendulous striated ruffle. These will be found in every perfect fungus of this sort. Colour is not to be depended on; the cap being sometimes, as in the variety *muscarius*, of the most beautiful crimson, and very frequently, especially in Charlton Wood, of a cream colour; but its most usual tint is a dingy red, inclining to brown. The Gills are always white at first, and become of a dingy red at last. The stalk in those which have a reddish Pileus is usually mottled with red and white. The whole fungus, but particularly the base, is apt to be soon destroyed by the larvæ of various insects, and among others by those of an undescribed species of *Tipula*, somewhat less than the *Tipula plumosa*, and distinguished by having its legs unusually hairy. It was by accident we discovered the attachment of this insect. Betwixt the Velum and the Gills, previous to the separation of the former from the edge of the Pileus, there is a considerable cavity. In this cavity we found, in a young fungus of this species, at least twenty of these *Tipulæ*, which had introduced themselves through an accidental aperture in the Velum.

The *Agaricus verrucosus* is very common in all our woods about the middle of September. The *muscarius* is plentiful only in particular spots.

We had the curiosity to taste this shewy fungus. Chewed, it was not unpleasant in the mouth; swallowed, it quickly produced a disagreeable burning kind of sensation in the throat, which extended to the stomach, though the quantity swallowed was but small; and this sensation continued a considerable time. That I might not be mistaken in my idea of this sensation, I prevailed on my draughtsman and gardener to chew and swallow some of it, who complained of its producing a similar effect. Hence we may infer, that this species, taken in any quantity, is likely to prove highly poisonous. This effect accords with the account given of it by different authors. SCOPOLI makes mention of some persons being poisoned by it, mistaking it for the *Agaricus caesareus*. HALLER relates, that six persons of Lithuania perished at one time by eating it; and that in Kamtschatka it had driven others raving mad; that there, three or four of them are eaten without much effect, but that ten intoxicate: nevertheless, the Russians eat it with their food; and the inhabitants of Kamtschatka prepare a liquor from this fungus, and a species of *Epilobium*, which, taken in small quantities, inebriates, and produces a trembling of the nerves, making some joyous, others melancholy. The very urine of those who drink it is found to intoxicate. LINNÆUS says, that flies are killed, SCOPOLI only stupified, by tasting an infusion of the *muscarius* in milk, whence its name, and that it is also inimical to bugs; but we have certainly much better remedies for these troublesome insects.







# VICIA CRACCA. TUFTED VETCH.

VICIA *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

*Stigma* latere inferiore transverse barbatum.

*Raii Syn. Gen.* 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

VICIA *Cracca* pedunculis multifloris, floribus imbricatis, foliolis lanceolatis pubescentibus, stipulis integris. *Lin. Syst. Vegetab.* p. 553. *Sp. Pl.* p. 1035. *Fl. Suec.* n. 652.

VICIA foliis lanceolatis sericeis, racemis multifloris reflexis, stipulis integerrimis. *Haller. Hist.* n. 424.

VICIA *Cracca.* *Scopoli Fl. Carn.* n. 899.

VICIA multiflora. *Bauh. Pin.* 345.

VICIA multiflora seu spicata. *Park.* 1072.

CRACCA. *Riv. Tetr.* 49. *Raii Syn.* p. 322. Tufted Vetches. *Hudson. Fl. Angl.* p. 317. *Lightfoot Fl. Scot.* p. 394.

RADIX perennis, repens.

CAULIS bipedalis, tripedalis et ultra, pro ratione loci, scandens, anguloso-fulcatus, pubescens, fragilis, frangendo crepitans, ramosus.

STIPULÆ binæ, semifagittatæ, integræ aut dentatæ.

FOLIA pinnata, pinnarum 8 seu 12 parium, raro ultra, oblongo-lanceolata, mucronata, utrinque sericea pube albida, pinnis oppositis alternisve, cirrho tripartito terminata.

FLORES racemosi.

RACEMI alterni, multiflori, primo subrecti, apice incurvi, postea reflexi, flosculis 10 ad 40, violaceis, confertis, brevissime pedicellatis.

CALYX: PERIANTHIUM monophyllum, tubulatum, coloratum, quinque-dentatum, dentibus tribus inferioribus longioribus, pilosis, medio productiore, duobus superioribus minimis, *fig. 2.*

COROLLA: VEXILLUM emarginatum, reflexum, violaceum, venis saturatoribus obsolete striatum. ALÆ conniventes. CARINA albida, ad apicem maculâ saturate violaceâ, utrinque notatum, *fig. 1.*

STAMINA: FILAMENTA 10, simplex et novem fidum, alba. ANTHERÆ parvæ, luteæ.

GERMEN oblongum, compressum, glabrum. STYLUS suberectus, undique pilosus. STIGMA obtusum, *fig. 3.*

PERICARPIUM: LEGUMEN semunciale, pallide fuscum, glabrum, utrinque compressum, *fig. 4.*

SEMINA quatuor vel quinque in singulo legumine subrotunda, nigricantia, *fig. 5.*

ROOT perennial and creeping.

STALK two, three feet or more in height, according to its place of growth, climbing, angular, grooved, downy, brittle, snapping when broken, branched.

STIPULÆ growing in pairs, each resembling half an arrow, entire, or toothed.

LEAVES pinnated, composed of 8 or 12 pair, seldom more, oblong, lanceolate, terminated by a point, covered on each side with a kind of white silky down, the pinnæ opposite or alternate, terminated by a tripartite cirrus.

FLOWERS growing in bunches or racemi.

RACEMI alternate, many-flowered, at first nearly upright, with the tip bent in, afterwards reflexed, flowers from 10 to 40, of a violet colour, crowded together, and standing on very short foot-stalks.

CALYX: a PERIANTHIUM of one leaf, tubular, coloured, having five teeth, the three lowermost longer than the upper ones, the middle one farthest extended, the two upper ones very minute, *fig. 2.*

COROLLA: STANDARD emarginate, reflexed, of a violet colour, faintly striped with veins of a deeper colour. WINGS closing. KEEL whitish, marked on each side at the tip with a deeply violet-coloured spot, *fig. 1.*

STAMINA: ten FILAMENTS, nine united, one single, white. ANTHERÆ small and yellow.

GERMEN oblong, compressed, smooth. STYLE nearly upright, hairy all round. STIGMA blunt, *fig. 3.*

SEED-VESSEL: a Pod about half an inch long, of a pale brown colour, flattened on each side, *fig. 4.*

SEEDS four or five in each pod, nearly round and blackish, *fig. 5.*

LINNÆUS, HALLER, and SCOPOLI, ascribe to this plant *stipulæ integræ*. Indeed the two former found a part of their specific character on this very circumstance; but this character is certainly a very fallacious one, as the plant is frequently found with us having *stipulæ dentatæ*, and such is the specimen we have figured. It has, however, other characters by which it is obviously distinguished. The most striking are drawn from the leaves and flowers: the former are covered with a fine kind of silky down, which gives them a manifest whiteness. This is most apparent in such specimens as grow in dry, exposed situations. The flowers are of a rich deep purple colour, grow in long bunches or racemi, thickly crowded together, and are conspicuous at a distance.

It is a very common plant in the neighbourhood of London, and no where more plentiful than in Battersea Meadows. When it has an opportunity of climbing up a hedge, it will grow to the height of five or six feet; and it is then that its blossoms are displayed to advantage. In the open pastures and fields, it is found much more dwarfish.

It flowers from July to September.

Gentlemen who wish to decorate the hedges of their plantations cannot select a more proper plant, as it is not apt, like the great Bindweed, Travellers-joy, and other strong growing plants, to suffocate the shrubs which support it.

It is recommended also, by some authors, as affording excellent fodder for cattle.





*Plantago aquatica*











*Valeriana Locusta.*

*no del a. j. b.*



# HOLCUS MOLLIS. CREEPING SOFT-GRASS.

HOLCUS *Lin. Gen. Pl.* POLYGAMIA MONOECIA.

HERMAPHROD. *Cal.* Gluma 1-f. 2-flora. *Cor.* Gluma aristata. *Stam.* 3. *Styli* 2. *Sem.* 1.

MASC. *Cal.* Gluma 2-valvis. *Cor.* o. *Stam.* 3.

HOLCUS *mollis* radice repente, geniculis villosis, aristâ extra spiculam productâ.

HOLCUS *mollis* glumis bifloris nudiusculis: flosculo hermaphrodito mutico; masculo aristâ geniculata. *Lin. Syst. Veget. p.* 760. *Sp. Pl. p.* 1485.

GRAMEN caninum longius radiculatum majus et minus. *Bauh. Pin.* 1.

GRAMEN paniculatum molle, radice graminis canini repente. *Morif. Hist.* 3. *p.* 202.

GRAMEN caninum paniculatum molle. *Raii Hist.* 1285. *Scheuchz. Agroft. p.* 235. *Vaill. Paris. p.* 87.

GRAMEN miliaceum aristatum molle. *Raii Syn. p.* 404. *Hudson. Fl. Angl. ed. 2. p.* 440. *Lightfoot Fl. Scot. p.* 631. *Schreb. Agroft. t.* 20.

RADIX perennis, tritici canini instar repens.

CULMI sesquipedales et ultra, sæpius erecti, foliosi, nodosi, geniculis albis, lanatis, culmi etiam steriles occurrunt ad terram magis reclinati, foliis crebrioribus, alternis, lanceolatis, vestiti.

FOLIA ad tres vel quatuor lineas lata, molli villo pubescentia, membranâ ad basin folii alba, obtusa, vagina striata, subcarinata, villosa.

PANICULA biuncialis, erecta, instante anthesi diffusa, demum coarctata.

RAMULI paniculæ purpurascens, pilosi.

SPICULÆ bifloræ etiam trifloræ, *fig.* 3, 4. albidæ seu parum purpurascens, flosculis omnibus hermaphroditis.

CALYX: gluma bivalvis, utrinque ciliata, ceteroquin nuda, valvula alterâ majore et paulo longiore, trinerve, nervis obscure viridibus, *fig.* 1, 2.

COROLLA: bivalvis, valvulis longitudine subæqualibus, basi pilosis, viridibus, exteriore majore, glabra, gibbosa, interiore plana ad lentem subnervosa, hispidula, e dorso majoris valvulæ superioris flosculi exurgit aristâ spicula longior primo recta, demum tortilis, geniculata, *fig.* 3, 4.

STAMINA: FILAMENTA tria, capillaria. ANTHERÆ oblongæ, flavæ, utrinque bifurcæ, *fig.* 5.

PISTILLUM: GERME subrotundum, nitidum, minimum. STYLI duo, plumosi, *fig.* 6.

NECTARIUM: glumulæ duæ, lanceolatae, ad basin germinis, *fig.* 7.

SEMINA duo, nitida, ovato-acuta, altera aristata, altera mutica, glumis calycinis inclusa, *fig.* 8.

ROOT perennial, creeping like the garden couch-grass.

STALKS a foot and a half or more in height, most commonly upright, leafy, jointed, the joints white and woolly, stems also arise producing no spikes, inclined more to the ground, and covered with more numerous, alternate, lanceolate leaves.

LEAVES three or four lines in breadth, covered with soft short hairs, the membrane at the base of the leaf white and obtuse, the sheath striated, somewhat keeled and villous.

PANICLE two inches in length, upright, during the flowering spread out, afterwards closed up.

BRANCHES of the panicle purplish and hairy.

SPICULÆ containing two, sometimes three flowers, *fig.* 3, 4. whitish, or slightly tinged with purple, all the florets hermaphrodite.

CALYX: a glume of two valves, edged on both sides with hairs, otherwise naked, one of the valves larger and a little longer than the other, having three ribs, of an obscure green colour, *fig.* 1, 2.

COROLLA of two valves, the valves nearly equal in length, hairy at bottom, of a green colour, the outermost largest, smooth, and gibbous, the innermost flat, somewhat ribbed when magnified, and a little hispid, from the back of the largest valve of the uppermost flower arises an awn, longer than the spicula, at first straight, lastly twisted and bent, *fig.* 3, 4.

STAMINA: three capillary FILAMENTS. ANTHERÆ oblong, yellow, forked at each end, *fig.* 5.

PISTILLUM: GERME roundish, shining, very small. STYLES two, feathery, *fig.* 6.

NECTARY: two, small, lanceolate glumes at the base of the germen, *fig.* 7.

SEEDS two, shining, ovate, pointed, the one bearded, the other naked, inclosed within the glumes of the calyx, *fig.* 8.

Notwithstanding this grass has been well named and described by some of the older Botanists, particularly MORISON and RAY, its characters do not appear to be generally well understood. Baron HALLER considers it as too nearly related to the *lanatus*, to be with propriety considered as a distinct species; and Mr. LIGHTFOOT, in his *Flora Scotica*, entertains similar doubts.

We have cultivated the two in separate beds, close to each other, for several years; have noticed them with a marked attention, where they have grown wild; and, from a variety of characters, are led to consider them as perfectly distinct.

The most striking of these characters we shall here enumerate. In the first place they differ widely in their natural places of growth: while the *lanatus* is most commonly found in meadows and pastures, the *mollis* rarely occurs but in woods and its environs. We have, indeed, frequently found the *lanatus*, which is by far the most general grass of the two, in a wood; but we never recollect seeing the *mollis* in meadows or pastures, and but rarely in corn-fields, where it has been said chiefly to grow. Coomb Wood in particular affords a strong instance of its attachment to shady situations. Contrary to what some authors assert, we have ever found the *mollis* the least plant; or, if it has been observed equally tall as the other, it has produced by far the most scanty panicle; nor do the spiculæ, in general, assume that brilliant colour which so eminently distinguishes those of the *lanatus* on their first coming out. But the character which puts its being a species out of all doubt, is its root; that of the *lanatus* does not creep, while the *mollis* possesses that property in a degree equal to the strongest couch-grass. The other characters which strikingly distinguish this species are its woolly joints and its large pointed spiculæ, in which the beard, or awn, is invariably much longer than the glumes of the calyx.

In speaking of the *lanatus* we took notice of the impropriety of separating that grass from the general mass, because one of the flowers in each spiculæ was imperfect\*. The fructification of the present species argues more strongly for its union with the others: here both flowers are hermaphrodite, both have stamina and feathery styles, and both produce apparently perfect seeds. Indeed we can perceive no character to distinguish it from an *aira*, to which genus it perhaps with propriety belongs.

SCHREBER's figure gives a good representation of the panicle when closed, but neither represents the joints or root well.

As we consider the *Holcus lanatus*, which is much to be preferred to the present species, as a very indifferent grass for cattle, so we cannot but look on the *mollis* as one of the worst species of couch; and, if it should ever become a practice to sow certain woods with grass seeds, this species ought surely to be eradicated.

It flowers in July.

\* SCOPOLI, from a circumstance of this sort, has in our opinion absurdly enough placed the *Avena elatior* with the *Holcus*.





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# SINAPIS ALBA. WHITE MUSTARD.

SINAPIS *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA:*

*Cal. patens. Cor. unguis recti. Glandula inter stamina breviora et pistillum, interque longiora et calycem.*

*Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

SINAPIS alba, filiquis hispidis: rostro obliquo longissimo ensiformi. *Lin. Syst. Vegetab. p. 503. Sp. Pl. p. 933. Haller Hist. 466.*

SINAPIS alba. *Scopoli Fl. Carn. n. 843.*

SINAPI apii foliis. *Bauh. Pin. 99.*

SINAPI album filiqua hirsuta, femine albo vel ruffo. *I. B. II. 856.*

SINAPI sylvestre minus? *Parkins. 830. Raii Syn. p. 295. White Mustard. Hudson. Fl. Angl. ed. 2. p. 298. Lightfoot Fl. Scot. p. 361.*

RADIX annua, simplex, fibrosa, albida.

CAULIS sesquipedalis ad bipedalem, erectus, ramosus, crassiusculus, striatus, tener, fragilis, hirsutus, pilis numerosis, rigidiusculis, deorsum versis.

FOLIA petiolata, alterna, radicalia et pleraque caulina, pallide virentia, venosa, utrinque hirsutula, pinnis trium circiter parium, inferioribus minimis, extima subtriloba, omnibus varie dentatis.

FLORES lutei, terminales.

PEDUNCULI tetragono-striati.

CALYX: PERIANTHIUM tetraphyllum, foliolis patentibus, concavis, deciduis, lævibus, sublinearibus, apice obtusis, fig. 1, 2.

COROLLA: PETALA quatuor, subrotunda, plana, patentia, integra, unguibus erectis, linearibus, longitudine vix calycis, fig. 3.

STAMINA: FILAMENTA sex, quorum duo breviora, virescentes, subulata. ANTHERÆ luteæ, erectæ, subfagittatæ, fig. 4.

GLANDULÆ ut in plerisque hujus generis, fig. 5.

PISTILLUM: GERMEN obovatum, subangulosum, ad lentem hispidum. STYLUS subulatus, anceps, germine duplo fere longior, staminibus paulo brevior. STIGMA capitatum, fig. 6.

PERICARPIUM: SILIQUA hirsuta, subarticulata, subtetrasperma, rostro longissimo ensiformi terminata, fig. 7, 8.

SEMINA majuscula, fusca, fig. 9.

ROOT annual, simple, fibrous, and whitish.

STALK a foot and a half to two feet high, upright, branched, somewhat clumsy, finely grooved, tender, brittle, and hirsute, the hairs numerous, stiffish, and turned downward.

LEAVES standing on foot-stalks, alternate, those next the root and most of those on the stalk pinnated, of a pale green colour, veiny, slightly hirsute on both sides, composed of three or four pair of pinnæ, the lowermost of which are very small, the terminal one often three-lobed, and all of them variously indented.

FLOWERS yellow, and terminal.

FLOWER-STALKS having four grooves or corners.

CALYX: a PERIANTHIUM of four leaves, which are spreading, concave, deciduous, smooth, somewhat linear, and blunt at top, fig. 1, 2.

COROLLA: four roundish PETALS, flat, spreading, entire, claws upright, linear, scarcely the length of the calyx, fig. 3.

STAMINA: six FILAMENTS, two of which are shorter than the rest, of a greenish colour, and tapering. ANTHERÆ yellow, upright, somewhat arrow-shaped, fig. 4.

GLANDS as in most of this genus, fig. 5.

PISTILLUM: GERMEN inversely ovate, slightly angular, hispid when magnified. STYLE tapering, two-edged, almost twice the length of the germen, and a little shorter than the stamina. STIGMA forming a little head, fig. 6.

SEED-VESSEL: a hairy POD, somewhat jointed, containing about four seeds, terminated by a very long sword-shaped beak, fig. 7, 8.

SEEDS rather large and brown, fig. 9.

In the corn-fields in Buckinghamshire, especially about High Wycomb, the *Sinapis alba* is as common, and as troublesome a weed among the corn as the *arvensis*: with us it is found more sparingly. It is frequently met with on banks, and among the corn in Batefeild-fields, and well known to constitute a part of young fallowing.

RAY has been particularly happy in pointing out the striking characters of the several species of *Sinapis*, which LINNÆUS has adopted. The seed-vessels, either in their form, size, or manner of growth, will always with certainty distinguish them; but as these plants may occur when they are not sufficiently advanced to exhibit those characters, it is necessary to call in others to our assistance: we may then, in addition to LINNÆUS's specific characters, observe, that the *Sinapis alba* is most obviously distinguished from the *nigra* by having its stalk finely grooved, and strongly haired, and from the *arvensis*, for which it is perhaps much more liable to be mistaken, by having its leaves more divided or jagged as our figure expresses.

It flowers in June, and ripens its seeds in July.





*Sinapis alba*









*Sinapis arvensis.*





# SINAPIS ARVENSIS. CHARLOCK.

SINAPIS *Lin. Gen. Pl.* TETRADYNAMIA SILIQUOSA.

*Cal.* patens. *Cor.* unguis recti. *Glandula* inter stamina breviora et pistillum, interque longiora et calycem.

*Raii Syn. Gen.* 15. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SINAPIS *arvensis* filiquis multangulis toroso-turgidis lævibus rostro ancipiti longioribus. *Lin. Syst. Vegetab.* p. 503. *Sp. Plant.* p. 933. *Fl. Suec.* 610. *Haller. Hist.* n. 467.

SINAPIS *arvensis.* *Scopoli Fl. Carn.* n. 842.

RAPISTRUM flore luteo. *Bauh. Pin.* 95.

RAPISTRUM arvorum. *Ger. emac.* 233. *Parkins.* 382. *Raii Syn.* 295. Charlock or Wild Mustard. *Hudson. Fl. Angl.* p. 298. *Lightfoot Fl. Scot.* p. 360.

RADIX annua, simplex, fibrosa, rigida, albida.

CAULIS pedalis, sesquipedalis, et ultra, ramosus, teres, solidus, striato-fulcatus, hispidus, purpurascens, ramis diffusis.

FOLIA alterna, petiolata, patentia, scabriuscula, venosa, dentato-ferrata, ovato-lanceolata, sæpe integra, sæpius vero basi sinuata, raro pinnata.

FLORES lutei, terminales, pedunculati.

PEDUNCULI longitudine calycis; hispiduli.

CALYX: PERIANTHIUM tetraphyllum, foliolis linearibus, canaliculatis, patentibus, flavis, obtusis, pilosis, *fig. 1.*

COROLLA: PETALA quatuor, lutea, obcordata, unguiculata, patentia, unguibus longitudine fere calycis, *fig. 1.*

NECTARIA: *Glandulæ* quatuor saturate virides.

STAMINA: FILAMENTA sex, quorum duo breviora, lutea, subulata. ANTHERÆ concolores, incumbentes, primo sagittatæ, apicibus demum revolutis, *fig. 3.*

PISTILLUM: GERMEN cylindraceum, longitudine fere styli, et paulo crassior, nunc læve, nunc hirsutum. STYLUS longitudine staminum. STIGMA capitatum, bilabiatum, *fig. 4.*

PERICARPIUM: SILIQUA teres, vix angulosa, patens, lævis aut hirsuta, polysperma, rostro brevi subtrigono terminata, *fig. 5, 6.*

SEMINA plurima, minuta, nigricantia.

ROOT annual, simple, fibrous, rigid, and whitish.

STALK from one to a foot and a half high, upright, branched, round, solid, striated or grooved, hispid, and purplish, the branches spreading wide.

LEAVES alternate, standing on foot-stalks, spreading, roughish, veiny, indented or serrated, ovato-lanceolate, often entire, but most commonly jagged at the base, rarely pinnated.

FLOWERS of a yellow colour, growing in heads, and standing on flower-stalks.

FLOWER-STALKS the length of the calyx, slightly hispid.

CALYX: a PERIANTHIUM of four leaves, the leaves linear, hollowed above, spreading, yellow, blunt and hairy, *fig. 1.*

COROLLA: four PETALS of a yellow colour, inversely heart-shaped, spreading, claws almost the length of the calyx, *fig. 2.*

NECTARIES: four *Glands* of a deep green colour.

STAMINA: six FILAMENTS, two of which are shorter than the rest, yellow and tapering. ANTHERÆ of the same colour, incumbent, first arrow-shaped, tips finally rolling back, *fig. 3.*

PISTILLUM: GERMEN cylindrical, almost the length of the style, and a little thicker, sometimes smooth, sometimes a little hairy. STYLE the length of the stamina. STIGMA forming a little head, divided into two lips, *fig. 4.*

SEED-VESSEL a round Pod, scarce perceptibly angular, spreading, smooth or hirsute, containing many seeds, terminated by a short somewhat four-cornered beak, *fig. 5, 6.*

SEEDS numerous, minute, and blackish.

There are three plants peculiar to corn fields, which, in various parts of the kingdom, are more or less common, and all of which are apt indiscriminately to be called CHARLOCK: these are the *Sinapis arvensis*, *Sinapis alba*, and *Raphanus Raphanistrum*; the first and the last of which are by far the most general. The name of *Charlock* ought, however, to be confined to the *Sinapis arvensis*, the most noxious weed of the three, and as such most carefully to extirpated from among the corn.

The leaves of this plant, on their first appearing above ground, and for some time afterwards, resemble those of the turnip so much, that we have known an intelligent farmer deceived by them, and mistaken in his crop. The whole plant, when young, is often eaten by the labouring part of the community; and, like turnip-tops, is no bad substitute to other culinary plants in times of scarcity.

June is the month in which the Charlock flowers most plentifully; but it may frequently be found in blossom earlier, as well as much later. It is not confined to corn fields, but is almost equally common among rubbish.

It varies much in height, colour of its stalk, number of its branches, and degree of hairiness. Among corn it grows taller, and is less branched. The stalk, in some situations, is wholly green; but is more frequently purple at the joints, and very often wholly so. The seed-vessels also vary much in colour and hairiness. We have not observed the flowers subject to any variation of colour.

For the means of distinguishing it from the *Raphanus Raphanistrum*, which at first sight it considerably resembles, vid. *Raphanus Raphanistrum* already figured.







# VICIA CRACCA. TUFTED VETCH.

VICIA Lin. Gen. Pl. DIADELPHIA DECANDRIA.

*Stigma latere inferiore transverse barbatum.*

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

VICIA Cracca pedunculis multifloris, floribus imbricatis, foliolis lanceolatis pubescentibus, stipulis integris. Lin. Syst. Vegetab. p. 553. Sp. Pl. p. 1035. Fl. Suec. n. 652.

VICIA foliis lanceolatis sericeis, racemis multifloris reflexis, stipulis integerrimis. Haller. Hist. n. 424.

VICIA Cracca. Scopoli Fl. Carn. n. 899.

VICIA multiflora. Baub. Pin. 345.

VICIA multiflora seu spicata. Park. 1072.

CRACCA. Riv. Tetr. 49. Raii Syn. p. 322. Tufted Vetches. Hudson. Fl. Angl. p. 317. Lightfoot Fl. Scot. p. 394.

RADIX perennis, repens.

CAULIS bipedalis, tripedalis et ultra, pro ratione loci, scandens, anguloso-fulcatus, pubescens, fragilis, frangendo crepitans, ramosus.

STIPULÆ binæ, semisagittatæ, integræ aut dentatæ.

FOLIA pinnata, pinnarum 8 seu 12 parium, raro ultra, oblongo-lanceolata, mucronata, utrinque sericea pube albida, pinnis oppositis alternisve, cirrho tripartito terminata.

FLORES racemosi.

RACEMI alterni, multiflori, primo suberecti, apice incurvi, postea reflexi, flosculis 10 ad 40, violaceis, confertis, brevissime pedicellatis.

CALYX: PERIANTHIUM monophyllum, tubulatum, coloratum, quinquedentatum, dentibus tribus inferioribus longioribus, pilosis, medio productiore, duobus superioribus minimis, fig. 2.

COROLLA: VEXILLUM emarginatum, reflexum, violaceum, venis saturatioribus obsolete striatum. ALÆ conniventes. CARINA albida, ad apicem maculâ saturate violaceâ, utrinque notatum, fig. 1.

STAMINA: FILAMENTA 10, simplex et novem fidum, alba. ANTHERÆ parvæ, luteæ.

GERMEN oblongum, compressum, glabrum. STYLUS suberectus, undique pilosus. STIGMA obtusum, fig. 3.

PERICARPIUM: LEGUMEN semunciale, pallide fuscum, glabrum, utrinque compressum, fig. 4.

SEMINA quatuor vel quinque in singulo legumine subrotunda, nigricantia, fig. 5.

ROOT perennial and creeping.

STALK two, three feet or more in height, according to its place of growth, climbing, angular, grooved, downy, brittle, snapping when broken, branched.

STIPULÆ growing in pairs, each resembling half an arrow, entire, or toothed.

LEAVES pinnated, composed of 8 or 12 pair, seldom more, oblong, lanceolate, terminated by a point, covered on each side with a kind of white silky down, the pinnæ opposite or alternate, terminated by a tripartite cirrus.

FLOWERS growing in bunches or racemi.

RACEMI alternate, many-flowered, at first nearly upright, with the tip bent in, afterwards reflexed, flowers from 10 to 40, of a violet colour, crowded together, and standing on very short foot-stalks.

CALYX: a PERIANTHIUM of one leaf, tubular, coloured, having five teeth, the three lowermost longer than the upper ones, the middle one farthest extended, the two upper ones very minute, fig. 2.

COROLLA: STANDARD emarginate, reflexed, of a violet colour, faintly striped with veins of a deeper colour. WINGS closing. KEEL whitish, marked on each side at the tip with a deeply violet-coloured spot, fig. 1.

STAMINA: ten FILAMENTS, nine united, one single, white. ANTHERÆ small and yellow.

GERMEN oblong, compressed, smooth. STYLE nearly upright, hairy all round. STIGMA blunt, fig. 3.

SEED-VESSEL: a POD about half an inch long, of a pale brown colour, flattened on each side, fig. 4.

SEEDS four or five in each pod, nearly round and blackish, fig. 5.

LINNÆUS, HALLER, and SCOPOLI, ascribe to this plant *stipulæ integræ*. Indeed the two former found a part of their specific character on this very circumstance; but this character is certainly a very fallacious one, as the plant is frequently found with us having *stipulæ dentatæ*, and such is the specimen we have figured. It has, however, other characters by which it is obviously distinguished. The most striking are drawn from the leaves and flowers: the former are covered with a fine kind of silky down, which gives them a manifest whiteness. This is most apparent in such specimens as grow in dry, exposed situations. The flowers are of a rich deep purple colour, grow in long bunches or racemi, thickly crowded together, and are conspicuous at a distance.

It is a very common plant in the neighbourhood of London, and no where more plentiful than in Battersea Meadows. When it has an opportunity of climbing up a hedge, it will grow to the height of five or six feet; and it is then that its blossoms are displayed to advantage. In the open pastures and fields, it is found much more dwarfish.

It flowers from July to September.

Gentlemen who wish to decorate the hedges of their plantations cannot select a more proper plant, as it is not apt, like the great Bindweed, Travellers-joy, and other strong growing plants, to suffocate the shrubs which support it.

It is recommended also, by some authors, as affording excellent fodder for cattle.





*Vicia Cracca.*









*Holcus mollis.*



# HOLCUS MOLLIS. CREEPING SOFT-GRASS.

HOLCUS *Lin. Gen. Pl.* POLYGAMIA MONOECIA.

HERMAPHROD. *Cal.* Gluma 1-f. 2-flora. *Cor.* Gluma aristata. *Stam.* 3. *Styli* 2. *Sem.* 1.

MASC. *Cal.* Gluma 2-valvis. *Cor.* o. *Stam.* 3.

HOLCUS *mollis* radice repente, geniculis villosis, arista extra spiculam producta.

HOLCUS *mollis* glumis bifloris nudiusculis: flosculo hermaphrodito mutico; masculo arista geniculata. *Lin. Syst. Veget. p.* 760. *Sp. Pl. p.* 1485.

GRAMEN caninum longius radiculatum majus et minus. *Bauh. Pin.* 1.

GRAMEN paniculatum molle, radice graminis canini repente. *Morif. Hist.* 3. *p.* 202.

GRAMEN caninum paniculatum molle. *Raii Hist.* 1285. *Schreb. Agrost. p.* 235. *Vaill. Paris. p.* 87.

GRAMEN miliaceum aristatum molle. *Raii Syn. p.* 404. *Hudson. Fl. Angl. ed. 2. p.* 440. *Lightfoot Fl. Scot. p.* 631. *Schreb. Agrost. t.* 20.

RADIX perennis, tritici canini instar repens.

CULMI sesquipediales et ultra, saepius erecti, foliosi, nodosi, geniculis albis, lanatis, culmi etiam steriles occurrunt ad terram magis reclinati, foliis crebrioribus, alternis, lanceolatis, vestiti.

FOLIA ad tres vel quatuor lineas lata, molli villo pubescentia, membranâ ad basin folii alba, obtusa, vagina striata, subcarinata, villosa.

PANICULA biuncialis, erecta, instante anthesi diffusa, demum coarctata.

RAMULI paniculae purpurascens, pilosi.

SPICULÆ bifloræ etiam trifloræ, *fig.* 3, 4. albidæ seu parum purpurascens, flosculis omnibus hermaphroditis.

CALYX: gluma bivalvis, utrinque ciliata, ceteroquin nuda, valvula alterâ majore et paulo longiore, trinerve, nervis obscure viridibus, *fig.* 1, 2.

COROLLA: bivalvis, valvulis longitudine subæqualibus, basi pilosis, viridibus, exteriore majore, glabra, gibbosa, interiore plana ad lentem subnervosa, hispidula, e dorso majoris valvulae superioris flosculi exsurgit arista spicula longior primo recta, demum tortilis, geniculata, *fig.* 3, 4.

STAMINA: FILAMENTA tria, capillaria. ANTHERÆ oblongæ, flavæ, utrinque bifurcæ, *fig.* 5.

PISTILLUM: GERME subrotundum, nitidum, minimum. STYLI duo, plumosi, *fig.* 6.

NECTARIUM: glumulae duæ, lanceolatae, ad basin germen, *fig.* 7.

SEMINA duo, nitida, ovato-acuta, altera aristata, altera mutica, glumis calycinis inclusa, *fig.* 8.

ROOT perennial, creeping like the garden couch-grass.

STALKS a foot and a half or more in height, most commonly upright, leafy, jointed, the joints white and woolly, stems also arise producing no spikes, inclined more to the ground, and covered with more numerous, alternate, lanceolate leaves.

LEAVES three or four lines in breadth, covered with soft short hairs, the membrane at the base of the leaf white and obtuse, the sheath striated, somewhat keeled and villous.

PANICLE two inches in length, upright, during the flowering spread out, afterwards closed up.

BRANCHES of the panicle purplish and hairy.

SPICULÆ containing two, sometimes three flowers, *fig.* 3, 4. whitish, or slightly tinged with purple, all the florets hermaphrodite.

CALYX: a glume of two valves, edged on both sides with hairs, otherwise naked, one of the valves larger and a little longer than the other, having three ribs, of an obscure green colour, *fig.* 1, 2.

COROLLA of two valves, the valves nearly equal in length, hairy at bottom, of a green colour, the outermost largest, smooth, and gibbous, the innermost flat, somewhat ribbed when magnified, and a little hispid, from the back of the largest valve of the uppermost flower arises an awn, longer than the spicula, at first straight, lastly twisted and bent, *fig.* 3, 4.

STAMINA: three capillary FILAMENTS. ANTHERÆ oblong, yellow, forked at each end, *fig.* 5.

PISTILLUM: GERME roundish, shining, very small. STYLES two, feathery, *fig.* 6.

NECTARY: two, small, lanceolate glumes at the base of the germen, *fig.* 7.

SEEDS two, shining, ovate, pointed, the one bearded, the other naked, inclosed within the glumes of the calyx, *fig.* 8.

Notwithstanding this grass has been well named and described by some of the older Botanists, particularly MORISON and RAY, its characters do not appear to be generally well understood. Baron HALLER considers it as too nearly related to the *lanatus*, to be with propriety considered as a distinct species; and Mr. LIGHTFOOT, in his *Flora Scotica*, entertains similar doubts.

We have cultivated the two in separate beds, close to each other, for several years; have noticed them with a marked attention, where they have grown wild; and, from a variety of characters, are led to consider them as perfectly distinct.

The most striking of these characters we shall here enumerate. In the first place they differ widely in their natural places of growth: while the *lanatus* is most commonly found in meadows and pastures, the *mollis* rarely occurs but in woods and its environs. We have, indeed, frequently found the *lanatus*, which is by far the most general grass of the two, in a wood; but we never recollect seeing the *mollis* in meadows or pastures, and but rarely in corn-fields, where it has been said chiefly to grow. *Coomb Wood* in particular affords a strong instance of its attachment to shady situations. Contrary to what some authors assert, we have ever found the *mollis* the least plant; or, if it has been observed equally tall as the other, it has produced by far the most scanty panicle; nor do the spiculæ, in general, assume that brilliant colour which so eminently distinguishes those of the *lanatus* on their first coming out. But the character which puts its being a species out of all doubt, is its root; that of the *lanatus* does not creep, while the *mollis* possesses that property in a degree equal to the strongest couch-grass. The other characters which strikingly distinguish this species are its woolly joints and its large pointed spiculæ, in which the beard, or awn, is invariably much longer than the glumes of the calyx.

In speaking of the *lanatus* we took notice of the impropriety of separating that grass from the general mass, because one of the flowers in each spiculæ was imperfect\*. The fructification of the present species argues more strongly for its union with the others: here both flowers are hermaphrodite, both have stamina and feathery styles, and both produce apparently perfect seeds. Indeed we can perceive no character to distinguish it from an *aira*, to which genus it perhaps with propriety belongs.

SCHREBER's figure gives a good representation of the panicle when closed, but neither represents the joints or root well.

As we consider the *Holcus lanatus*, which is much to be preferred to the present species, as a very indifferent grass for cattle, so we cannot but look on the *mollis* as one of the worst species of couch; and, if it should ever become a practice to sow certain woods with grass seeds, this species ought surely to be eradicated.

It flowers in July.

\* SCOPOLI, from a circumstance of this sort, has in our opinion absurdly enough placed the *Avena elatior* with the *Holcus*.







# CREPIS TECTORUM. SMOOTH SUCCORY-HAWKWEED.

CREPIS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Recept.* nudum. *Cal.* calyculatus, squamis deciduis. *Pappus* plumosus, stipitatus.

*Raii Syn. Gen.* 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

CREPIS *tefforum* foliis lanceolato-runcinatis sessilibus lævibus, inferioribus dentatis. *Lin. Syff. Vegetab.* p. 600. *Sp. Pl.* p. 1135. *Fl. Suec.* n. 705.

HEDYPNOIS *tefforum* caule folioso ramofo, foliis runcinatis nudis, radicalibus lanceolatis, caulinis sagittatis acutis sessilibus. *Hudson. Fl. Angl. ed. 2.* p. 341.

CREPIS foliis ad terram pinnatis, superne amplexicaulibus pinnatis hastatis. *Haller. Hist.* n. 31.

CREPIS *tefforum.* *Scopoli Fl. Carn.* n. 954.

HIERACIUM luteum glabrum five minus hirsutum. *I. B. II.* 1024.

CICHOREUM pratense luteum lævius. *Baub. Pin.* 126. *Park.* 778.

HIERACIUM aphacoides. *Ger. em.* 297.

HIERACIUM foliis et facie chondrillæ. *Parkin.* 794. *Raii Syn.* p. 165. Smooth Succory Hawkweed. *Lightfoot Fl. Scot.* p. 440.

RADIX annua, simplex, parum fibrosa, descendens, lutescens.

CAULIS pedalis, bipedalis et ultra, erectus, angulato-ftriatus, nunc glaber, nunc hirsutulus, præsertim inferne, sæpe purpureus, foliosus, ramofus.

FOLIA valde variabilia, sæpe tota glabra, alias utrinque hirsutula, radicalia taraxaci perfimilia, sed paulo angustiora, nervo medio superne purpureo, caulina amplexicaulia, acuta, varie dentata, ramæ subintegra, linearia, subsagittata, marginibus revolutis.

FLORES inter minores hujus familiæ, flavi, laxæ corymbosi.

CALYX communis duplex, exterior brevissimus, patulus, interior subcylindraceus, simplex, sulcatus, squamis erectis, linearibus, conniventibus, æqualibus, longitudinaliter pilis globuliferis hispidulis, squamæ ad basin quinque aut plures, subulatæ, breves, inæquales, laxæ, pariter hispidulæ.

COROLLA composita, imbricata; *Corollulis* hermaphroditis, plurimis, æqualibus, propria monopetala, truncata, quinquedentata, subtus plerumque purpurea, *fig. 1.*

STAMINA: FILAMENTA quinque, capillaria, brevissima. ANTHERA cylindracea, tubulosa, *fig. 2.*

PISTILLUM: GERMEN subovatum. STYLUS filiformis, longitudine staminum. STIGMATA duo, reflexa, *fig. 3.*

SEMINA viginti et ultra in singulo capitulo, fusca, ftriata; *Pappus* femine longior, sessilis, simplex, *fig. 4.*

ROOT annual, simple, furnished with few fibres, descending, yellowish.

STALK from one to two feet high or more, upright, somewhat angular and finely grooved, sometimes perfectly smooth, sometimes a little hairy, especially towards the base, often purple, leafy, and branched.

LEAVES extremely variable, sometimes perfectly smooth, sometimes slightly hirsute on both sides, those next the root very like the leaves of dandelion, but a little narrower, the midrib purple on the upper side, those of the stalk embracing the stalk, pointed, and variously indented, those of the branches nearly entire, linear and somewhat arrow-shaped, the edges rolled back.

FLOWERS smaller than most of this family, yellow, and growing loosely in a kind of corymbus.

CALYX common to all the florets double, the exterior one very short and spreading, the interior one somewhat cylindrical, simple, and grooved, the scales upright, linear, connivent, equal, longitudinally beset with stiff hairs, having a little globule at their extremities, the scales at the base are about five or more in number, subulate, short, unequal, loose, and like the others slightly hispid.

COROLLA compound, and imbricated; *Florets* hermaphrodite, numerous and equal, each single floret monopetalous, truncated, having five teeth, and for the most part purple beneath, *fig. 1.*

STAMINA: five, very short, capillary FILAMENTS. ANTHERÆ united into a cylindrical tube, *fig. 2.*

PISTILLUM: GERMEN somewhat ovate. STYLE filiform, the length of the stamina. STIGMATA two, turned back, *fig. 3.*

SEEDS twenty or more in each head, brown, and finely grooved; *Down* longer than the seed, sessile, and simple, *fig. 4.*

The great variety of appearances to which this plant is subject, in common with many others of the same class, has occasioned no small confusion among botanists, especially the older ones, who have divided it into several species: even modern botanists, and those of the first character, have confessed the difficulty of distinguishing it in its various states. LINNÆUS exclaims, *Nulla planta hac vulgatio, nulla magis structura et facie varians, nulla magis confusis synonymis.* HALLER writes, *Insuperabiles tenebræ synonyma obducunt:* and SCOPOLI says, *Melius diceretur Crepis VARIA.*

Perhaps nothing short of repeated observation will enable a botanist to distinguish the same plant in its various states, especially such as are subject to such unusual variations; yet there is frequently some character not liable to be altered by difference of soil and situation, which, if pointed out, will be of great service in directing those who may not have plants constantly before them. RAY observes, that the flowers, heads, and seeds of this plant are smaller than those of any other English Hawkweed, the *Hyoseris* excepted (he might have added the *Hypochoeris glabra*). To the smallness of the flowers, &c. may be joined the structure of the calyx and the stem-clasping leaves; and when it is known to be a plant growing generally in this country on dry banks, in pastures, and on plant of its medium size, in distinguishing it at all times.

It flowers from June to September.

Mr. HUDSON has thought proper to remove it from the genus *Crepis* of LINNÆUS, with which it must be owned it does not well accord, and make it an *Hedypnois*; yet it does not very well agree with the character he himself has given of that genus; for the pappus can scarcely be said to be subplumosus, unless very highly magnified.





*Crepis tectorum.*







# RHINANTHUS CRISTA GALLI. YELLOW RATTLE.

RHINANTHUS *Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

*Cul.* 4-fidus, ventricosus. *Capsula* 2-locularis, obtusa, compressa.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

RHINANTHUS *Crista Galli* corollis labio superiore compresso brevior. *Lin. Syst. Vegetab. p.* 459. *Sp. Pl. p.* 840. *Fl. Suec.* 542.

ALECTOROLOPHUS calycibus glabris. *Haller. Hist.* 313.

MIMULUS *Crista Galli.* *Scopoli Fl. Carn. n.* 751.

PEDICULARIS pratensis lutea vel *Crista Galli.* *Bauh. Pin.* 163.

CRISTA GALLI foemina. *I. B. III.* 436.

CRISTA GALLI. *Ger. em.* 1071.

PEDICULARIS seu *Crista Galli* lutea. *Park.* 713. Yellow Rattle or Cocks-comb. *Raii Syn. \** 284. *Hudson. Fl. Angl. ed. 2. p.* 268. *Lightfoot Fl. Scot. p.* 322.

RADIX annua, simplex, albida, parum fibrosa.

CAULIS pedalis circiter, erectus, simplex, seu ramosus, quadrangulus, glaber, purpureo maculatus.

FOLIA opposita, remotiuscula, sessilia, cordato-lanceolata, obtusiuscula, venosa, lævia, subtus tuberculis albidis pulchre reticulata, serrata, ferraturis margine crassis et subinvolutis.

BRACTEÆ oppositæ, magnæ, foliis similes at basi latiores, et profundius incisæ, ferraturis acuminatis.

FLORES flavi, spicati, pedunculis brevissimis insidentes.

CALYX: PERIANTHIUM monophyllum, subrotundum, inflatum, compressum, quadridentatum, dentibus equalibus, pallide virens, venosum, persistens, *fig. 1.*

COROLLA monopetala, ringens. *Tubus* subcylindraceus, longitudine calycis; *labium* superius galeatum, compressum, emarginatum, margine anteriori utrinque violaceo; *labium* inferius trifidum, laciniis lateralibus planis, rugosis, intermedia majori, marginibus involutis, *fig. 2.*

STAMINA: FILAMENTA quatuor, longitudine labii superioris, sub quo recondita, quorum duo breviora. ANTHERÆ incumbentes, hinc bifidæ, hirsutæ, *fig. 3.*

PISTILLUM: GERMEN ovatum, compressum, glabrum. STYLUS filiformis, staminibus longior. STIGMA obtusum, inflexum, *fig. 4.*

PERICARPIUM: CAPSULA orbiculata, mucronata, compressa, bilocularis, bivalvis, *fig. 7.*

SEMINA plurima, majuscula, compressa, subreniformia, libera, *fig. 8.*

ROOT annual, simple, whitish, furnished with few fibres.

STALK about a foot high, upright, simple or branched, square, smooth, and spotted with purple.

LEAVES opposite, rather remote from each other, sessile, lanceolate with a heart-shaped base, bluntish, veiny, smooth, underneath beautifully reticulated with white tubercles, sawed, the notches thick on the edge, and somewhat rolled back.

FLORAL-LEAVES opposite, large like the leaves, but broader at the base, and more deeply cut in, the notches pointed.

FLOWERS yellow, growing in a spike, and sitting on very short foot-stalks.

CALYX: a PERIANTHIUM of one leaf, roundish, inflated, flattened, having four equal teeth, of a pale green colour, and permanent, *fig. 1.*

COROLLA monopetalous, ringent. *Tube* somewhat cylindrical, the length of the calyx; the upper *lip* helmet-shaped, flattened, with a notch on the end, the anterior edge blueish on each side, the lower *lip* trifid, the lateral segments flat and wrinkled, the middle one largest, the edges rolled inward, *fig. 2.*

STAMINA: four FILAMENTS, the length of the upper lip, under which they lie hid, two of which are shorter than the others. ANTHERÆ incumbent, at one end bifid, and hairy, *fig. 3.*

PISTILLUM: GERMEN ovate, flattened, smooth. STYLE filiform, longer than the stamens. STIGMA blunt, and bent downwards, *fig. 4.*

SEED-VESSEL: a round, flat CAPSULE of two cavities and two valves, terminating in a short point, *fig. 7.*

SEEDS several, rather large, flattened, somewhat kidney-shaped and loose, *fig. 8.*

The seeds of this plant, when ripe, rattle in the husks, and hence its name. LINNÆUS informs us, that this circumstance guides the Swedish peasant in mowing his grass for hay. In the neighbourhood of London hay-making commences while this plant is in full bloom.

It abounds in most of our pastures, and flowers early in June.

Agriculturally considered, we may rank it with the useless plants.

In the third edition of RAY's Synopsis, DILLENIUS, on the authority of Dr. RICHARDSON, adds another species, which he calls *Pedicularis major angustifolia ramosissima flore minore luteo, labello purpureo*. Found near York, and also in Northumberland. This, however, is considered by succeeding Botanists as a variety only, and is not found with us.





*Rhinanthus Crista Galli.*







J. Smith, del. et sculp.

*Hordeum murinum*





# HORDEUM MURINUM. WALL BARLEY.

HORDEUM *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

*Cal.* lateralis, bivalvis, uniflorus, ternus.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ, FLORE IMPERFECTO CULMIFERÆ.

HORDEUM *murinum* flosculis lateralibus masculis aristatis, involucris intermediis ciliatis. *Lin. Syst. Vegetab.* p. 108. *Sp. Pl.* p. 126. *Fl. Suec.* n. 113.

HORDEUM spicis crassis, longe aristatis, calycinis glumis aristatis. *Haller Hist.* n. 1536.

HORDEUM *murinum.* *Scopoli Fl. Carn.* n. 1241.

GRAMEN hordeaceum minus et vulgare. *Baub. Pin.* 8.

HORDEUM spurium vulgare. *Parkinson* 1147.

GRAMEN fecalinum et fecale sylvestre. *Ger. emac* 73. *Raii Syn.* p. 391. Wild Rie or Rie-Grass, Wall-Barley, Way-Bennet. *Hudson. Fl. Angl. ed. 2.* p. 56. *Lightfoot Fl. Scot.* p. 108.

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| <p><b>RADIX</b> annua, fibrosa, albida vel subfusca.</p> <p><b>CULMI</b> plures, pedales et sesquipedales, suberecti, foliosi, basi procumbentes, infracti, geniculati, geniculis majusculis, pallidioribus.</p> <p><b>FOLIA</b> palmaria in quibusdam etiam sex uncias longa, duas vel tres lineas lata, subglauca, molli pube vestita, basi appendiculis duabus albis, acuminatis, amplexicaulis, instructa; <i>membrana</i> brevissima, obtusa; <i>vagina</i> vix pubescens.</p> <p><b>SPICÆ</b> palmares, et ultra, parum nutantes, pallide virentes, compressæ, spicis hordei distichi haud absimiles.</p> <p><b>CALYX</b>: INVOLUCRUM hexaphyllum, triflorum, foliolis setaceis, acuminatis, aristis corollæ brevioribus, scabris, duobus intermediis basi latioribus, ciliatis, <i>fig. 1.</i></p> <p><b>FLOS</b> intermedius hermaphroditus, laterales masculi, omnibus magnitudine et forma similibus, <i>fig. 2.</i><br/><i>Flos Hermaphrod.</i></p> <p><b>COROLLA</b> bivalvis, valvula exterior oblongo-ovata, acuminata, obsolete trinervis, lævis, desinens in aristam biunciale scabram, <i>fig. 4.</i> valvula interior lanceolata, plana, medio fulcata, apice emarginato-truncata, <i>fig. 3.</i> ad basin anteriorem hujus valvulæ exsertur arista recta longitudine filamentorum, <i>fig. 8.</i></p> <p><b>NECTARIUM</b>: GLUMULÆ duæ, acuminatæ ad basin germinis, <i>fig. 7.</i></p> <p><b>STAMINA</b>: FILAMENTA tria, capillaria, glumis corollæ multo breviora. ANTHERÆ parvæ, e flavo virentes, <i>fig. 5.</i></p> <p><b>PISTILLUM</b>: GERMEN ovatum, pubescens. STYLI duo, reflexi, villosi, <i>fig. 6.</i></p> | <p><b>ROOT</b> annual, fibrous, whitish or of a brownish colour.</p> <p><b>STALKS</b> numerous, a foot or a foot and a half high, nearly upright, leafy, procumbent at the base, and crooked or broken, jointed, the joints rather large and paler than the stalk.</p> <p><b>LEAVES</b> a hand's-breadth or in some even six inches in length, and two or three lines broad, somewhat glaucous, and covered with a soft down, furnished at the base with two small, white, pointed appendages, which embrace the stalk; <i>membrane</i> very short and obtuse; <i>sheath</i> scarcely downy.</p> <p><b>SPIKES</b> a hand's-breadth or more in length, drooping a little, of a pale green colour, flat, and not unlike those of common barley.</p> <p><b>CALYX</b>: an INVOLUCRUM of six leaves, containing three flowers, the leaves running out to a long bristly point, shorter than the beards of the corolla, the two intermediate ones broader at the base than the others, and edged with hairs, <i>fig. 1.</i></p> <p><b>FLOWER</b> in the middle hermaphrodite, the side ones males, all alike in size and shape, <i>fig. 2.</i><br/><i>Hermaphrodite Flower.</i></p> <p><b>COROLLA</b> of two valves, the outer valve oblong-ovate, with a long point, faintly three-ribbed, smooth, terminating in a beard or awn, which is rough to the touch, <i>fig. 4.</i> the inner valve lanceolate, flat, with a groove, truncated at top, and slightly emarginate, <i>fig. 3.</i> at the outer base of this valve arises a straight awn the length of the filaments, <i>fig. 8.</i></p> <p><b>NECTARY</b>: two long-pointed, little GLUMES, at the base of the germen, <i>fig. 7.</i></p> <p><b>STAMINA</b>: three capillary FILAMENTS, much shorter than the glumes of the corolla. ANTHERÆ small, of a yellowish green colour, <i>fig. 5.</i></p> <p><b>PISTILLUM</b>: GERMEN ovate, downy. STYLES two, reflexed, and villous, <i>fig. 6.</i></p> |
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Some of the grasses are noxious to the husbandman in one way, and some in another. We have been informed, on the most respectable authority, that in the Isle of Thanet this grass is well known to the inn-keepers, who call it Squirrel-tail Grass; and find, that if horses feed on it for some time, the beards or awns of the spikes stick into their gums, and make them so sore, that they are in danger of being starved. The gentleman, who related to me this fact, informed me, that on the road he had a bill put into his hand, signifying, that at such an inn travellers might depend on having good hay for their cattle, without any mixture of Squirrel-tail Grass.

It is chiefly on the edges of paths, at the bottoms of walls, and on the borders of fields, that we find this noxious grass; and in such situations it is extremely common in the neighbourhood of London. Fortunately it is seldom or never found in the body of pastures and meadows, and consequently it rarely occurs in our hay.

It continues to flower and produce seed during the greatest part of the summer.

We are carefully to distinguish it from the *Hordeum pratense* of Mr. HUDSON, which LINNÆUS, contrary to the opinion of RAY, VAILLANT, HALLER, and other respectable Botanists, considers only as a variety of the present species.







# ERYSIMUM OFFICINALE. HEDGE MUSTARD.

ERYSIMUM *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.*

*Siliqua* columnaris, exacte tetraëdra, *Cal.* clausus.

*Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

ERYSIMUM *officinale* filiquis spicæ adpressis. *Lin. Syst. Vegetab. p. 499. Sp. Pl. p. 922. Fl. Suec. n. 598.*

ERYSIMUM foliis pinnatis, pinnis-rectangulis, acutis, extrema triangulari maxima, filiquis adpressis. *Haller. Hist. 878.*

SISYMBRIUM *officinale. Scopoli Fl. Carn. n. 824.*

ERYSIMUM vulgare. *Bauh. Pin. 100.*

ERYSIMUM Dioscoridis Lobelio. *Ger. em. 254.*

ERYSIMUM vulgare. *Parkins. 833.*

ERUCA hirsuta filiqua caule appressa Erysimum dicta. *Raii Syn. 298. Common Hedge-mustard. Hudon. Fl. Angl. ed. 2. p. 286. Lightfoot Fl. Scot. p. 354.*

RADIX annua, descendens, flexuosa, fibrillosa.

CAULIS pedalis ad bipedalem, erectus, teres, striatus, pubescens, scaber, ramosus, sæpius purpurascens.

FOLIA alterna, petiolata, utrinque parcius pubescentia, subtus scabra, præcipue in costa et nervis, pinnatifida, laciniis oppositis, oblongis, ferratodentatis, terminali majore, cum laciniis proximis confluenta.

RACEMI florum terminales, subrotundi; fructuum filiformes, elongati, nudi, pubescentes.

CALYX: PERIANTHIUM tetraphyllum, pallidum, foliolis lineari ovalibus, obtusiusculis, concavis, pubescentibus, *fig. 1.*

COROLLA cruciformis, tetrapetala, fordide lutescens, petalis cuneiformibus, obtusis, venulosis, unguiculatis, calyce longioribus, *fig. 4.*

STAMINA: FILAMENTA sex, subulata, pallida, corollâ paulo breviora; quorum duo adhuc breviora. ANTHERÆ cordatæ, acutæ, subrecurvæ, *fig. 2.*

NECTARIA: Glandule duæ utrinque ad stamina breviora.

PISTILLUM: GERMEN cylindricum, striatum. STYLUS brevis, pubescens. STIGMA orbiculatum, planiusculum, emarginatum, altitudine fere staminum, *fig. 3.*

SILIQUÆ cylindricæ, striatæ, virides aut purpureæ, pubescentes, cauli adpressæ, *fig. 5, 6.*

SEMINA fordide lutescentia, utrinque oblique truncata, *fig. 7.*

ROOT annual, descending, crooked, and fibrous.

STALK from one to two feet high, upright, round, finely grooved, beset with numerous short rough hairs, branched, and for the most part purplish.

LEAVES alternate, standing on foot-stalks, slightly downy on each side, particularly on the midrib and nerves, pinnatifid, the segments opposite, oblong, ferrated or toothed, the end one largest, and connected with the next to it.

RACEMI of the flowers terminal, roundish; of the fruit filiform, lengthened out, naked, and downy.

CALYX: a PERIANTHIUM of four leaves, of a pale colour, linear-oval, bluntish, concave, and downy, *fig. 1.*

COROLLA cross-shaped, composed of four petals, of a dull yellow colour, wedge-shaped, obtuse, veiny, clawed, longer than the calyx, *fig. 4.*

STAMINA: six FILAMENTS, tapering, of a pale colour, a little shorter than the corolla; two of which are shorter than the rest. ANTHERÆ heart-shaped, pointed, bent somewhat upward, *fig. 2.*

NECTARIES: two Glands one on each side, placed at the base of the shorter stamina.

PISTILLUM: GERMEN cylindrical, striated. STYLE short, downy. STIGMATA round, flattish, emarginate, almost the height of the stamina, *fig. 3.*

PODS cylindrical, finely grooved, green or purple, downy and pressed to the stalk, *fig. 5, 6.*

SEEDS of a dingy yellow colour, obliquely truncated at each end, *fig. 7.*

The *Erysimum officinale* affords a remarkable instance of that diversity of appearance which the same plant may assume at different periods of its growth. View it just as it comes into blossom, and afterwards, when its flowering branches shoot out horizontally to a great length, and you will scarcely believe that it is one and the same plant.

It grows very commonly on dry banks, under walls, pales, and in waste places; and flowers from June to September.

The leaves of Hedge Mustard are said to be attenuant, expectorant, and diuretic, and stand particularly recommended against chronical coughs and hoarseness, whether humoural or occasioned by immoderate exertion of the voice. LOBEL greatly commends for this purpose a compound syrup, which, as GEOFFROY observes, is not superior to a simple mixture of the expressed juice of the herb with honey; and indeed it is not very clear, whether the virtue of the honey is much improved by the Erysimum.

The herb has no smell, and its taste, at least when moderately dried, is little other than herbaceous, with somewhat of a slight saline impregnation.

The seeds of Erysimum are considerably pungent, and appear to be nearly of the same quality with those of mustard, but weaker. Their acrimony, like that of mustard-seed is extracted totally by water, and partially by rectified spirit, and strongly impregnates water in distillation. *Aikin's Ed. of Lewis's Mat. Med. p. 290.*





*Erysimum officinale*









*Thymus Trico.*



# SISYMBRIUM IRIO. LONDON ROCKET.

SISYMBRIUM *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.*

*Siliqua dehiscens; valvulis rectiusculis. Calyx patens. Cordilla patens.*

*Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

SISYMBRIUM *Irio* foliis runcinatis dentatis nudis, caule lævi, siliquis erectis. *Lin. Syst. Vegetab. p. 499. Sp. Pl. 921. Fl. Suec. n. 596.*

ERYSIMUM latifolium majus glabrum. *Bauh. Pin. 101.*

IRIS lævis Apulus erucæ folio. *Col. Ecphr. 1. 264.*

ERYSIMUM latifolium Neapolitanum. *Park. 834. Raii Syn. p. 298. Smoother broad-leaved Hedge-Mustard. Hudson. Fl. Angl. ed. 2. p. 297. Jacquin. Fl. Austr. tab. 322.*

Tota planta perpetuo glaberrima est, nec ullum pilum aut villum habet, acre sinapios sapore gaudens.

The whole plant is always perfectly smooth, without any hair or down, having the biting taste of mustard.

RADIX annua, albida, calami anserini crassitie, simplex, quandoque ramosa.

ROOT annual, whitish, the thickness of a goose-quill, simple, sometimes branched.

CAULIS pedalis, ad bipedalem, teres, hic illic purpureo, nitidus, firmus inferne, non striatus, sæpius ab ipsa basi ramosus.

STALK from one to two feet high, round, here and there purplish, shining, below rigid, not striated or grooved, often branched quite from the bottom.

FOLIA radicalia, quæ brevi marcescunt, et caulina pleuraque, sunt pinnatifida, sinuata, inæqualiter dentata aut serrata, petiolata, patentia, flaccida, lobis ut plurimum acutis, extremo majore et longiore, summa hastata, et quædam integerrima ac simplicia.

LEAVES next the root, which soon wither, and most of those on the stalk are pinnatifid, sinuated, unequally toothed or serrated, standing on foot-stalks, spreading and flaccid, the lobes for the most part pointed, the end one larger and longer, the uppermost leaves hastate, some of them entire and simple.

CORYMBI in racemos producuntur longissimos, modo rectos, modo flaccidos.

CORYMBI lengthened out into long racemi, sometimes strait, sometimes flaccid.

FLORES pusilli, flavi.

FLOWERS small and yellow.

CALYX patens, flavescent, fig. 1.

CALYX spreading and yellowish, fig. 1.

PETALA obtusa, et oblonga, ungues habent subrectos, supra hos patentissima, fig. 2.

PETALS obtuse, and oblong, having claws nearly upright, above which they spread widely, fig. 2.

STAMINA et STYLUS etiam flavescent, fig. 3, 4.

STAMINA and the STYLE are also of a yellowish colour, fig. 3, 4.

SILIQUÆ graciles, subteretes, ad semina torulosæ, et biunciales, brevibus insistent pedunculis et quaquorsum laxè patent, fig. 5.

PODS slender, nearly round, about two inches long, standing on short foot-stalks, and spreading loosely every way, seeds protuberant, fig. 5.

SEMINA minuta, pallide flavent, fig. 6.

SEEDS minute, of a pale yellow colour, fig. 6.

The *Sisymbrium Irio*, though a scarce plant in many parts of Great Britain, is frequent enough in the neighbourhood of London: we find it on dry banks, especially such as are made of road sand, walls, and among rubbish in uncultivated places. Its chief time of flowering is from July to September. Like many other annuals it is inconstant as to its particular place of growth. In favourable seasons and situations it is capable of multiplying itself exceedingly from the great number of seed vessels which it produces. The seeds are very small, and protuberant a little through the valves of the seed-vessel give them the appearance of finely jointed pods; a character, which when present will readily distinguish this plant. Mr. Ray observed it at Faulkbourne in Essex, and on the walls of Berwick on the Tweed. That great naturalist remarks, that after the fire of London in the years 1767, 1768, it came up abundantly among the rubbish in the ruins. MORISON, who lived at that period, was particularly struck with so singular an appearance, and in his *Preludia Botanica* has a long dialogue on this very subject; in which, whatever laurels he may gain as a Botanist, few will think him entitled to any as a Philosopher.

As the book, containing this curious dialogue, is in few hands, we flatter ourselves a copy of it will not be unacceptable to many of our readers.

“*Botan.* Secundo die Septembris, anno Domini, 1666, incepit incendium illud luctuosum et ad triduum, aut quatrimum duravit. Nec ope humanâ (divinitus evenit, quum non est malum in civitate, quod non fecit Dominus) extingui poterat: nam Æolus apperto ventorum carcere (ut ita loquar) regnabat: per triduum aut quatrimum illud. Post octomestrem spatium, per rudera ducentorum jugerum, solo æquatatorum, mihi perambulanti versus excambium vetus nunc. Antè illud tempus; Collegium Greshamianum dictum tendenti, in vestigiis, ædificiorum et tectorum, mihi tanta sese objecit copia, Erysimi illius, quod irio lævis Apulus alter Fabio Columnæ dicitur: Et eodem revertens, mensibus duobus post hoc; adeo densè pullulavit, ut falce quasi Triticum, aut fæcale demeti potuerit. Soc. Quid inde sequetur, unde provenisse tantam copiam istius Irionis? putas tu; an à semine seu satione? Botan. Quid quæso, te movet ad talem proponendam questionem, cum ædificia omnia circa ædem Divi Pauli, et alibi passim in medietullio celeberrimi Emporii Londini, à mille aut saltem centenis annis: Fuere constructa et tectis conservata? Soc. Ergo tanta copia illius seminis, latebat in cellis et cavearum fundis, et soli et pluvie exposita, fructicavit. Botan. Unum hoc addam: ego non sum Plinius, ut ex aliorum relatione mundo imponam; nec Mattheolus ut appingam ea quæ nunquam extitere: sed ut vis appertis

“verbis



“ verbis nec Calamistratis: meum tibi dicam animum. *Soc.* Dicas quæso? *Botan.* Nullum est semen plantæ,  
“ quod producit (conservatum quam diligentissime) post decennium; perraro post quinquennium: multo minus  
“ post centenos aliquot, et mille annos. *Soc.* Ergo aliquis semina istius plantæ, per rudera sparsit. *Botan.* Non  
“ credo imò, certò scio tantam istius Irionis, seminis copiam non fuisse in tota insula Britannia, imo nec in Gallia:  
“ dubito an in Germania et Italia ipsa; (cujus Neapolis est regnum, ubi frequenter crescebat tempore Pab. Columnæ,)  
“ unquam floruit tanta istius plantæ copia, ergo etiam si seminatores fuissent (ex tuâ opinione, post hæc tibi à me  
“ audita) non poterat tanta copia istius individualis speciei, seminis; à tot Regnis suppeditari. *Soc.* De hoc non  
“ multum nunc dubito: sed quid concludis, sis rationi consentaneus. Unde provenit tanta copia istius Irionis,  
“ forte sponte. Sub idem tempus, ibidem vidisti et observasti multas alias plantas, pappescentes, imo gramineas  
“ aliasque diversarum classium. *Botan.* Vidi et attentè observavi. *Soc.* Undè hæc aliæ venêre? *Botan.* A semine  
“ volatili pappescenti quod potest (ut supra clarè satis docui) ad multa Milliaria, vento transferri, et in altum attolli  
“ et ubicunque ceciderit, germinat et fructificat. *Soc.* De pappescentibus non dubito quod dicis, insuper Gramina,  
“ densè satis proveniunt: in qualibet terra si negligatur: quare non potest tuum Erysimum, seu Irio lævis Apulus  
“ alter in rudibus Londinensibus, sponte etiam provenire. *Botan.* Non est par ratio inter Gramina et Erysimum  
“ hoc: Quia Graminum semina sparguntur passim; est omnium vegetantium plantarum, in omnibus regionibus,  
“ frequentissima et facilius sese propagat. *Soc.* Est planta tamen perfecta, ex supra dictis à te: ergo à semine, multi-  
“ plicatur. *Botan.* Hoc ego semper credidi, et in hanc horam credo. Unum a te sciscitari velim, putatne hanc  
“ plantam, Irionem lævem Apulum Col. a quovis hortulano, aut incola hujus civitatis satam, in rudibus fuisse.  
“ *Soc.* Neminem hujus insulæ primò tam curiosum, secundò nec tantæ ejus plantæ seminis, copia instructum  
“ fuisse, pro certo ratum et statutum habeo. Quis tam stolidus aut malè feriatas homo, si semina ad manum haberet  
“ (quod impossibile supra demonstratum est) rudibus ducentorum jugerum terræ, solo æquatorum, committeret.  
“ Ergo cum nec à satione, nec à semine, ad aliquot centenos annos in rudibus latente, produci poterat; hujus  
“ plantæ tanta copia. Unde concludere vis, tantam ipsius multitudinem provenisse. *Botan.* Certè ut supra dixi ex  
“ sate partim volatili, partim fixo, salpetro, sulphure, et ex terra sive calcolâ aut ruderosâ et aqua, mixtaque  
“ materia quocunque modo appelles, per me non stabit. Nescio quid mihi persuasum habere debeo, adhuc.  
“ Probabile certè est, hanc plantam tam copiosè provenisse spontè; ut supra dictum fuit. Sed hæc opinio apperit  
“ januarii ad philosophos contemplativos, qui indifferenter, credunt cujuslibet generis plantas, arbores, frutices,  
“ suffuticæ sive, ex terra tanquam matrice, sponte sine semine provenire. Sed hæc opinio (ut mihi videtur) repugnat  
“ sacre scripturæ, et rationi. Hæc per dialogum inter nos dixisse, impræsentiarum, sat esse puto. Quod reitat de  
“ hac materia; Sociis virtuosis, Parisiensibus, et Londinensibus, viris nobilissimis, clarissimis et doctissimis (ex quorum  
“ numero te esse scio) discutiendum relinquo. Vale, mi doctissime vir.”





# LINUM USITATISSIMUM. COMMON FLAX.

LINUM *Lin. Gen. Pl.* PENTANDRIA PENTAGYNIA.

*Cal.* 5-phyllus. *Petala* 5. *Caps.* 5-valvis, 10-locularis. *Sem.* solitaria.

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

LINUM *usitatissimum* calycibus capsulisque mucronatis, petalis crenatis, foliis lanceolatis alternis, caule subfolitario. *Lin. Syst. Vegetab.* p. 249. *Sp. Pl.* p. 397.

LINUM *arvense.* *Bauh. Pin.* 214.

LINUM *fylvestre vulgatus.* *Park.* 1334. *Ger. emac.* 556. *Raii Syn.* p. 362. Manured Flax. *Hudson. Fl. Angl. ed. 2.* p. 133. *Lightfoot Fl. Scot.* p. 173.

RADIX annua, simplex, fibrosa, pallide fusca.

CAULIS erectus, setquipedalis, bipedalis et ultra, teres, glaber, foliosus, superne tantum ramosus.

FOLIA lanceolata, sessilia, conferta, sparsa, suberecta, integerrima, lævia, trinervia.

FLORES majusculi, pulchre cærulei, paniculati.

PEDUNCULI teretes, glabri.

CALYX: PERIANTHIUM 5-phyllum, foliolis ovatis, acuminatis, carinatis, persistentibus, margine membranaceis, ad lentem ciliatis, *fig. 1.*

COROLLA: PETALA 5, cærulescentia, cuneifolia, decidua, venis saturationibus picta, unguibus albis, apicibus tuberosis, *fig. 2.*

STAMINA: FILAMENTA quinque, alba, subulata, basi dilatata. ANTHERÆ primo oblongæ, demum sagittatæ, *fig. 3.* incumbentes, cæruleæ, ad stylos inclinatæ et subcoadunatæ, *fig. 3. 4.*

PISTILLUM: GERMEN ovatum, nitidum. STYLI quinque, longitudine filamentorum, sub-clavati, cærulescentes, apice leviter cohærentes. STIGMATA simplicia, *fig. 5.*

PERICARPIUM: CAPSULA globosa, subangulata, mucronata, decemlocularis, quinquevalvis, *fig. 6.*

SEMINA in singulo loculamento solitaria, ovato-acuta, compressa, nitida, *fig. 7.*

ROOT annual, simple, fibrous, of a pale brown colour. STALK upright, a foot and a half, two feet high or more, round, smooth, leafy, branched above only.

LEAVES lanceolate, sessile, growing thickly together, without any regular order, almost upright, perfectly entire.

FLOWERS large, of a beautiful blue colour, growing in a panicle.

FLOWER-STALKS round and smooth.

CALYX: a PERIANTHIUM of five leaves, which are ovate, pointed, keeled, permanent, the edge membranous, and if magnified fringed with hairs, *fig. 1.*

COROLLA: 5 blueish, wedge-shaped, deciduous PETALS, streaked with veins of a deeper colour, claws white, tips somewhat gnawed, *fig. 2.*

STAMINA: five white tapering FILAMENTS, dilated at the base. ANTHERÆ at first oblong, finally arrow-shaped, *fig. 3.* incumbent, of a blue colour, inclined to the styles, and somewhat united, *fig. 3. 4.*

PISTILLUM: GERMEN ovate, shining. STYLES five, the length of the filaments, somewhat club-shaped, blueish, slightly cohering. STIGMATA simple, *fig. 5.*

SEED-VESSEL: a globular, somewhat angular and pointed CAPSULE, having ten cavities, and five valves, *fig. 6.*

SEEDS one in each cavity, ovate, pointed, flat and glossy, *fig. 7.*

It may be doubted, perhaps, whether the common flax, found in any part of the kingdom, may not originally have been introduced from abroad; yet Mr. HUDSON speaks of it as a common plant in Dorsetshire and Devonshire, and entertains no idea of its being a doubtful native. However this may be, the few specimens of it which we find occasionally in corn fields and among rubbish, particularly in the neighbourhood of Battersea (for flax is not cultivated near London), have doubtless been introduced there with the produce of the garden or the corn field.

It flowers in June and July.

In the earliest record we have, flax is mentioned as a plant cultivated in Egypt (Exodus ch. ix. v. 31.); for which reason antiquaries have been surprised to find the vestments of mummies made of cotton. It is highly probable, however, that mankind made thread of cotton before the use of flax was discovered; for cotton is produced in a state ready for spinning, whereas flax requires a long process before it can be brought to that state.

In the simplicity of former times, when families in this island provided within themselves most of the necessities and conveniences of life, every garden supplied a proper quantity of hemp and flax; but the macerating or steeping, which was necessary to separate the thread by rotting the stalk, was in many places found to render the water so offensive and detrimental, that in the reign of Henry VIII. a law was made that "No person shall water any hemp or flax in any river, running water, stream, brook, or other common pond, where heads are used to be cut, on pain of forfeiting, for every time so doing, twenty shillings. 33 Hen. VIII. c. 17. § 1. Might not this inconvenience be prevented, and the process much accelerated, by using boiling water, and a proper quantity of the ashes of any vegetable? *Vid.* below.

The wisdom of Parliament hath lately thought proper to encourage, by a premium, the growth of hemp and flax in this kingdom, certainly with a very laudable intention, as long as we procure these articles from countries where the balance of trade is against us; or, in other words, while we continue to pay for them in money, and not with our manufactures. The premium is four pence for every fourteen pounds of flax.

The ancients were of opinion, that flax impoverished land. "Urit enim lini campum seges." *Virg. G. I. v. 77.* But, while speculative and practical cultivators unfortunately continue to be such very distinct people, the rules which we find in books cannot be much depended on. However, it may be a caution to those who have not a plentiful command of manure not to engage too largely with this plant without proper trials. As flax will be new





*Linum usitatissimum*





to most of the land in the kingdom, there is little doubt but that the produce will at first be large, and it is very desirable to introduce a new kind of grain into husbandry to extend the succession of crops.

*"For the vicissitudes of various grain  
"Tend to preserve the vigour of the plain."*

Flax not only supplies us with cloathing, but its seeds, well known by the name of lin-seed, afford an oil of great use in painting, varnishing, &c. They are also used medicinally. Infusions of lin-seed, like other mucilaginous liquors, are used as emollients, in craillants, and obtundents of acrimony, in heat of urine, stranguries, thin defluxions on the lungs, and other like disorders. A spoonful of the seeds, unbruised, is sufficient for a quart of water, larger proportions rendering the liquor disagreeably slimy. The mucilage obtained by inspissating the infusions or decoctions is an excellent addition for reducing disgusting powders into the form of an electuary, occasioning the compound to pass the fauces freely, without sticking or discovering its taste in the mouth. The expressed oil is supposed to be more of a healing and balsamic nature than the other oils of this class, and has been particularly recommended in coughs, spitting of blood, cholics, and constipations of the belly. The seeds in substance, or the matter remaining after the expression of the oil, are employed externally in emollient and maturating cataplasms. In some places these seeds in times of scarcity have supplied the place of grain; but appeared to be an unwholesome as well as an unpalatable food. *Tragus* relates, that those who fed on them in Zealand had the hypochondres in a short time distended, and the face and other parts swelled; and that not a few died of these complaints.

The following reflections communicated to me by a friend will, I flatter myself, not be unacceptable to my readers. Should practice justify the theory, I will venture to say, they will be golden reflections to the nation:

*Some reflections relative to the watering of flax by a new method, so as to shorten labour, add to the strength of the flax, and give it a much finer colour, which would render the operation of bleaching safer and less tedious.*

THOUGH the following reflections have for their object an improvement in the very essential article of watering of flax, yet I must advertise my reader, that they are only theory, and must depend entirely for their truth and justification upon future experiments, skilfully and judiciously made. Should repeated trials prove the advantage of the method proposed, we may venture to affirm, it would be an improvement that would increase the national income in the agricultural branch many thousand pounds annually, would add greatly to the perfection of the linen manufacture, and over and above would suppress a very disagreeable nuisance, which the present method of watering flax occasions during some part of the summer in every flax-growing country.

The intention of watering flax is, in my opinion, to make the boon more brittle or friable, and by soaking to dissolve that gluey kind of sap that makes the bark of plants and trees adhere, in a small degree, to the woody part. The bark is called the harle, and produces the flax; the useless woody part, which remains when the bark is separated, the boon. To effect this separation easily, the practice has long prevailed of soaking the flax in water to a certain degree of fermentation, and afterwards drying it. For this soaking some prefer rivulets that have a small current, and others stagnant water in ponds and lakes. In both these ways the water acts as in all other cases of infusion and maceration. After two or three weeks it extracts a great many juices of a very strong quality, which in ponds give the water an inky tinge, and offensive smell, and in rivulets mix in the stream, and kill the fish.

Nay, if this maceration is too long continued, the extracted and fermented sap will completely kill the flax itself: for if, instead of two or three weeks, the new flax were to lay soaking in the water four or five months, I presume it would be good for nothing but to be thrown upon the dunghill. Both harle and boon would in that time be completely rotted; yet the harle or flax, when entirely freed from this sap, and manufactured into linen, or into ropes, might be many months under water without being much damaged. As linen, it may be washed, steeped, and boiled in scalding water twenty times, without losing much of its strength: and as paper, it acquires a kind of incorruptibility.

It appears then essential, to the right management of new flax, to get rid of this pernicious vegetative sap, and to macerate the boon; but from the complaints made against both the methods of watering now in use, there is reason to think, that there is still great room for improvement in that article. In rivulets, the vegetative sap, as it is dissolved, is carried off by the current, to the destruction of the fish. This prevents the flax from being stained; but the operation is tedious, and, I have been told, often not complete, from the uncertainty of knowing the precise times when it is just enough, and not too much, or perhaps from neglect. In ponds, the inky tinge of the water often serves as a kind dye to the flax, which imbibes it so strongly, that double the labour in bleaching will hardly bring the linen made of such flax to an equality in whiteness with linen made of flax untinged. This seems to be equally unwise, as though we were to dye cotton black first, as a means to whiten it afterwards. These ponds besides become a great nuisance to the neighbourhood: the impregnated water is often of such a pernicious quality, that cattle, however thirsty, will not drink of it, and the effluvia of it may perhaps be nearly as infectious as it is offensive. If this effluvia is really attended with any contagious effects in our cold climates, a thing worth enquiring into, how much more pernicious must its effects have been in the hot climate of Egypt, a country early noted for its great cultivation of flax!

From these considerations I have been led to think, that the process of watering might be greatly improved and shortened by plunging the new flax, after it is rippled, into scalding water, which, in regard to extracting the vegetative sap, would do in five minutes more than cold water would do in a fortnight, or perhaps more than cold water could do at all, in respect to the clearing the plant of that sap. Rough almonds, when thrown into scalding water, are blanched in an instant; but perhaps a fortnight macerating those almonds in cold water would not make them part so easily with their skins, which are the same to them as the harle to the flax. Were tea leaves to be infused in cold water a fortnight, perhaps the tea produced by that infusion would not be so good to the taste, nor so strongly tinged to the eye, as what is effected by scalding water in five minutes. By the same analogy, I think, flax, or any small twig, would be made to part with its bark much easier and quicker, by being dipped in boiling water, than by being steeped in cold water. This reflection opens a door for a great variety of new experiments in regard to flax. I would therefore recommend to gentlemen cultivators and farmers to make repeated trials upon this new system, which would soon ascertain whether it ought to be adopted in practice or rejected. One thing, I think,



think, we may be certain of, that, if the Egyptians watered their flax in our common manner, they undoubtedly watered it in very warm water, from the great heat of their climate, which probably might make them neglect to think of water heated by any other means than that of the sun. A good general practice can only be established upon repeated trials; but, I am persuaded, many lose half the value of their crop by some of the present methods of watering it. Though one experiment may fail, another with a little variation may succeed, and the importance of the object desired to be obtained will justify a good degree of perseverance in the prosecution of the means. In this view, as the Chinese thread is said to be very strong, it would be worth while to be acquainted with the practice of that distant nation in regard to the rearing and manufacturing of flax, as well as with the methods used by the Flemings and the Dutch.

Boiling water perhaps might at once clear the new flax from many impurities, which, when not removed till spun into yarn, are then removed with difficulty, and loss of substance to the yarn. Why should not the longitudinal fibres of the flax, before they be spun into yarn, be made not only as fine but as clean as possible? Upon the new system proposed, the act of bleaching would begin immediately after the rippling of the flax; and a little done then might save much of what is generally done after the spinning and weaving. To spin dirty flax, with a view of cleaning it afterwards, appears to be the same impropriety as though we were to reserve part of the dressing given to leather till after it is made into a glove.

Should the plunging the flax into the boiling water not suffice to make the boon brittle enough, as I am inclined to think it would not, then the common watering might be added; but, in this case, probably half the time usually given to the watering would suffice, and the flax might then be laid in clear rivulets, without any apprehensions of its infecting the water and poisoning the fish, or of being discoloured itself; for the boiling water into which it had been previously put would have extracted all the poisonous vegetative sap, which, I presume, is what chiefly discolours the flax, or kills the fish.

On the supposition that boiling water, in the preparation of flax, may be found to be advantageous and profitable, I can recollect at present but one objection against it being generally adopted. Every flax-grower, it may be said, could not be expected to have conveniences for boiling water sufficient for the purpose, the consumption of water would be great, and some additional expence would be incurred. In answer to this I shall only observe, that I presume any additional expence would be more than reimbursed by the better marketable price of the flax; for otherwise any new improvement, if it will not quit cost, must be dropped, were it even the searching after gold. In a large cauldron a great deal of flax might be dipped in the same water, and the consumption perhaps would not be more than a quart to each sheaf: even a large household pot would be capable of containing one sheaf after another; and I believe the whole objection would be obviated, were the practice to prevail with us, as in Flanders and Holland, that the flax-grower and the flax-dresser should be two distinct professions.

I shall conclude with recommending to those who are inclined to make experiments, not to be discouraged by the failure of one or two trials. Perhaps the flax, instead of being just plunged into the scalding water, ought to be kept in it five minutes; perhaps a quarter of an hour; perhaps a whole hour. Should five minutes, or a quarter of an hour, or an hour, not be sufficient to make the boon and harle easily separate, it might perhaps be found expedient to boil the flax for more than an hour; and such boiling, when in this state, might in return save several hours boiling in the article of bleaching. It is not, I think, at all probable, that the boiling of the flax with the boon in it would prejudice the harle; for, in the course of its future existence, it is made to be exposed twenty or forty times to this boiling trial, and, if not detrimental in the one case, it is to be presumed it would not be detrimental in the other. Perhaps after the boiling it would be proper to pile up the flax in one heap for a whole day, or for half a day, to occasion some fermentation, or perhaps, immediately after the boiling, it might be proper to wash it in cold water. The great object, when the flax is pulled, is to get the harle from the boon with as little loss and damage as possible; and if this is accomplished in a more complete manner than usual, considerable labour and expence will be saved in the future manufacturing of the flax. On this account, I think, much more would be gained than lost, were the two or three last inches of the roots of the flax to be chopped off, or clipped off, previous to its being either watered or boiled.

The following precaution is necessary to be observed, that the flax should never be spread out to dry at a season when it may be in danger of being exposed to the frost.





# VERONICA SCUTELLATA. BOG SPEEDWELL.

VERONICA *Lin. Gen. Pl.* DIANDRIA MONOGYNIA.

*Cor.* Limbo 4-partito, laciniâ infima angustiore. *Capsula* bilocularis.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *scutellata* racemis lateralibus alternis: pedicellis pendulis, foliis linearibus integerrimis. *Lin. Syst. Vegetab.* p. 57. *Sp. Pl.* p. 16. *Fl. Suec.* n. 17.

VERONICA foliis lanceolatis, ferratis, glabris, ex alis racemosa. *Haller Hist.* 533.

VERONICA *scutellata.* *Scopoli Fl. Carn.* n. 22.

ANAGALLIS aquatica angustifolia scutellata. *Bauh. Pin.* 252.

VERONICA aquatica angustifolia minor. Narrow-leav'd Water Speedwell, or Brooklime. *Raii Syn.* p. 280. *Hudson. Fl. Angl. ed. 2.* p. 5. *Lightfoot Fl. Scot.* p. 74.

RADIX perennis, fibrosa, fusca.

CAULIS: paulo supra terram furculi plerumque steriles erumpunt, qui humi repunt, caulis florifer suberectus, debilis, teres, vix angulosus, glaber, ramosus, semipedalis ad pedalem, basi etiam aliquando repens.

FOLIA opposita, sessilia, lineari-lanceolata, glabra, minutim et rariter dentata.

FLORES albi, seu pallide carnei, racemosi.

RACEMI laterales, plerumque alterni, laxi, flexuosi, multiflori.

BRACTEÆ minutæ, lanceolatæ.

PEDUNCULI capillares, alterni, demum penduli.

CALYX: PERIANTHIUM parvum, quadripartitum, laciniis ovato-lanceolatis, subæqualibus, fig. 1.

COROLLA monopetala, rotata, plerumque alba, laciniâ superiore venis purpureis picta, fig. 2.

STAMINA: FILAMENTA duo, medio incrassata, alba; ANTHERÆ albæ, fig. 3.

PISTILLUM: GERMEN viride; STYLUS declinatus, albus; STIGMA obtusum, flavescens, fig. 4.

PERICARPIUM: CAPSULA compressa, suborbiculata, emarginata, bilocularis, polysperma, ad 16. fig. 5.

SEMINA orbiculata, plana, flava, fig. 6.

ROOT perennial, fibrous, of a brown colour.

STALK: just above the ground young shoots spring forth, which are for the most part destitute of flowers and creep on the earth, the flowering stalk is nearly upright, weak, round, scarce perceptibly angular, smooth, branched, from six inches to a foot in height, sometimes also creeping at bottom.

LEAVES opposite, sessile, betwixt linear and lanceolate, smooth, finely tooth'd, teeth distant.

FLOWERS white, or of a pale flesh colour, growing in racemi.

RACEMI lateral, for the most part alternate, loose, crooked, and bearing many flowers.

FLORAL-LEAVES minute, and lanceolate.

FLOWER-STALKS capillary, alternate, finally pendulous.

CALYX: a PERIANTHIUM small, deeply divided into four segments, which are ovato-lanceolate and nearly equal, fig. 1.

COROLLA monopetalous, wheel-shaped, for the most part white, the upper segment streaked with purple veins, fig. 2.

STAMINA: two FILAMENTS, thickest in the middle, white; ANTHERÆ white, fig. 3.

PISTILLUM: GERMEN green; STYLE depending, white; STIGMA blunt, yellowish, fig. 4.

SEED-VESSEL a CAPSULE nearly round, flattened, emarginate, of two cavities, containing numerous seeds, to 16. fig. 5.

SEEDS round, flat, and yellow, fig. 6.

This species of Veronica is distinguished from the others by several characters, such as, its place of growth, which is peculiar, it being seldom found but on bogs, or the edges of ponds, especially such as we find on heaths and moors, hence we have called it *Bog Speedwell*; the narrowness as well as smoothness of its leaves also strikingly distinguishes it; LINNÆUS's term of *integerrimis*, as applied to them, is certainly too strong, for they are always toothed, though faintly, and in a singular manner; and if these characters were not sufficient, the loose straggling manner in which the flower stalks grow, would at once point out the *Scutellata* as a distinct species.

It is common in the situations above described on most of our heaths, and flowers from June to September.





*Veronica scutellata.*

*St. Sowerby del. et sculp.*









*Veronica Anagallis.*



# VERONICA ANAGALLIS. WATER SPEEDWELL.

VERONICA *Lin. Gen. Pl.* DIANDRIA MONOGYNIA.

*Cor.* Limbo 4-partito, laciniâ infima angustiore. *Capsula* bilocularis.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *Anagallis* racemis lateralibus, foliis lanceolatis ferratis, caule erecto. *Lin. Syst. Vegetab. p.* 56. *Sp. Pl. p.* 16. *Fl. Suec. n.* 13.

VERONICA foliis lanceolatis ferratis, glabris, ex alis racemosa. *Haller hist. n.* 553.

VERONICA *Anagallis Scopoli Fl. Carn. n.* 12.

ANAGALLIS aquatica minor folio oblongo. *Bauh. Pin.* 252.

ANAGALLIS aquatica folio oblongo crenato. *Park.* 1237.

ANAGALLIS aquatica major. *Ger. emac.* 620.

VERONICA aquatica longifolia media. *Raii Syn.* 280. The Middle Long-leav'd Water Speedwell or Brooklime. *Hudson, Fl. Angl. ed. 2. p.* 5. *Lightfoot Fl. Scot. p.* 73.

RADIX annua, fibrosa.

ROOT annual, and fibrous.

CAULIS erectus, pedalis ad bipedalem, teres, subangulosus, glaber, ad basin usque ramosus, inferne purpurascens.

STALK upright, from one to two feet high, round, slightly angular, smooth, branched quite to the bottom, below purplish.

FOLIA opposita, sessilia, lanceolata, sæpe ovato-lanceolata, ferrata, glabra, venosa, pallide viridia.

LEAVES opposite, sessile, lanceolate, often ovato-lanceolate, ferrated, smooth, veiny, of a pale green colour.

FLORES racemosi, numerosi, triginta quadraginta aut etiam plures in singulo racemo.

FLOWERS growing in racemi, numerous, from thirty to forty, or even more on one racemus.

RACEMI laterales, oppositi, longissimi, suberecti.

RACEMI lateral, opposite, very long, nearly upright.

PEDUNCULI ad lentem subviscidi.

FLOWER-STALKS somewhat viscid when magnified.

BRACTEÆ lanceolatae.

FLORAL-LEAVES lanceolate.

CALYX: PERIANTHIUM quadripartitum, persistens, laciniis ovato-lanceolatis, acutis, lævibus, trinerviis, subæqualibus, *fig.* 1.

CALYX: a PERIANTHIUM deeply divided into four segments, and permanent, the segments ovato-lanceolate, pointed, smooth, three-ribb'd, and nearly equal, *fig.* 1.

COROLLA monopetala, rotata, pallide purpurea, laciniâ superiore et duabus lateralibus venis saturationibus striata, *fig.* 2.

COROLLA monopetalous, and wheel-shaped, of a pale purple colour, the uppermost segment and the two lateral ones streaked with deeper veins of the same colour, *fig.* 2.

STAMINA: FILAMENTA duo, purpurascencia, medio crassiora; ANTHERÆ concolores; POLLEN album, *fig.* 3.

STAMINA: two FILAMENTS of a purplish colour, thickest in the middle; ANTHERÆ of the same colour; POLLEN white, *fig.* 3.

PISTILLUM: GERMEN viride; STYLUS declinatus, purpurascens, superne crassior; STIGMA obtusum, *fig.* 4.

PISTILLUM: GERMEN green; STYLE depending, purplish, thickened above; STIGMA blunt, *fig.* 4.

PERICARPIUM: CAPSULA bilocularis, subinde trilocularis, subrotunda, vix emarginata, polysperma, *fig.* 5.

SEED-VESSEL: a CAPSULE of two cavities, sometimes three, roundish, scarcely emarginate, containing many seeds, *fig.* 5.

SEMINA plurima, subrotunda, minutissima, *fig.* 6.

SEEDS numerous, roundish, and very minute, *fig.* 6.

The *Veronica Anagallis* is a much more general plant than the *Scutellata*, being found in almost every watery ditch, but especially in those which communicate with the Thames, on the edges of which it is also extremely common.

It is apt to vary considerably according to situation; when it grows in ditches that have a considerable depth of water, it becomes much taller, the stalk is proportionably thicker, and the leaves are apt to be curled; when it grows out of the water, the plant is smaller, the leaves are broader, flatter, and of a paler hue; in all situations its racemi are remarkably long and full of flowers, and its seeds are uncommonly small and numerous.

It blossoms from June to September.

The seed-vessels are sometimes found very much enlarged; on cutting them open a small larva was found in some, and a pupa in others, which, on being kept a proper time, produced a small Curculio or Weevil.







# ANTHEMIS COTULA. STINKING MAYWEED.

ANTHEMIS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

*Recept. paleaceum. Pappus nullus. Cal. hemisphæricus, subæqualis. Flosculi radii plures quam 5.*

*Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE SEMINIBUS PAPPO DESTITUTIS CORYMBIFERÆ DICTÆ.*

ANTHEMIS *Cotula receptaculis conicis: paleis setaceis, feminibus nudis. Lin. Syst. Vegetab. p. 646. Sp. Pl. p. 1261. Fl. Suec. n. 767.*

CHAMÆMELUM *foliis glabris, duplicato-pinnatis, nervo foliaceo, pinnulis lanceolatis feminibus exasperatis. Haller hist. 104.*

ANTHEMIS *Cotula. Scopoli Fl. Carn. n. 1092.*

CHAMÆMELUM *fætidum. B. Pin. 135.*

CHAMÆMELUM *fætidum seu Cotula fætida I. B. III. 120.*

COTULA *alba Dod. Pempt. 258. Raii Syn. p. 185. Stinking Mayweed. Hudson. Fl. Angl. ed. 2. p. 373. Lightfoot Flor. Scot. p. 495.*

Tota planta fœtidissima, sublanuginosa.

RADIX annua, simplex, fibrosa.

CAULIS pedalis ad bipedalem, erectus, subangulatus, striatus, pubescens, ramosus, sæpe usque ad basin.

FOLIA alterna, sessilia, sublanuginosa, pinnata, costa lineam lata, subtus carinata, pinnis plerumque ramosis, planis, acutis, superne puncti impressis, nudo oculo conspicuis notata.

PEDUNCULI erecti, striati, nudi, superne subincrassati.

FLORES albi, disco luteo, minime virescente.

CALYX communis, hæmisphæricus, imbricatus, squamis pallide virentibus, exterioribus obtusis, fusco marginatis, carina saturatius virente.

FLOSCULI radii tredecim circiter, feminei, subovati, lineas duas fere lati, obtusi, binerves, tridentati, dentibus obtusis, *fig. 1.* pars tubulosa flosculi ut ut *Germen*, glandulis pellucidis, nudo oculo conspicuis ornata, *fig. 2.* Stigma bifidum, laciniis reflexis, sæpe mancum, *fig. 3.*

FLOSCULI disci numerosi, tubulosi, hermaphroditi, quinqueidentati, *fig. 4.* Stigma bifidum, laciniis revolutis, *fig. 6.* *Germen* ut ut corolla ad lentem glandulosa, *fig. 5.*

SEMEN obtuse tetragonum, fuscum, rugosum, apice planum, puncto in vertice prominulo, excavato, inferne attenuatum, *fig. 7.* auct.

RECEPTACULUM subcylindraceum, superne paleis setaceis, rigidis instructum, *fig. 8.*

The whole plant extremely fetid, and slightly woolly. ROOT annual, simple, and fibrous.

STALK from one to two feet high, upright, somewhat angular, finely grooved, downy, branched often almost to the bottom.

LEAVES alternate, sessile, slightly woolly, pinnated, the midrib a line broad, keeled underneath, the pinnæ for the most part branched, flat, pointed, on the upper side marked with impressed dots visible to the naked eye.

FLOWER STALKS upright, finely grooved, naked, somewhat thickened above.

FLOWERS white, the centre yellow, without any tendency to green.

CALYX common to all the florets, hemispherical, imbricated, the scales of a pale green colour, the outer ones blunt, and edged with brown, the keel more deeply coloured.

FLOWERS of the *radius* about thirteen, female, nearly ovate, almost two lines broad, obtuse, two-rib'd, terminating in three obtuse teeth, *fig. 1.* the tubular part of the floret as well as the *Germen*, ornamented with transparent glands, visible to the naked eye, *fig. 2.* Stigma bifid, the segments reflexed, often imperfect, *fig. 3.*

FLOWERS of the *disk* numerous, tubular, hermaphrodite, five-tooth'd, *fig. 4.* Stigma bifid, the segments rolled back, *fig. 6.* *Germen* as well as the corolla, when magnified, studded with little glands, *fig. 5.*

SEED bluntly four-cornered, brown, wrinkled, flat at top, with a prominent hollow point in the centre, below slenderer, *fig. 7.* magnified.

RECEPTACLE nearly cylindrical, on the upper part furnished with rigid, bristle-shaped paleæ or chaff, *fig. 8.*

The *Anthemis Cotula*, like the *Matricaria Chamomilla*, is very common in corn-fields, where it is well known frequently to blister the skin of the reapers, or of children who may happen to gather it, which the *Matricaria* never does:—if the plant be examined with a microscope, it will be found besprinkled with little glands, in which its acrid matter most probably resides.

Independent of this quality, it abounds to that degree in some corn-fields, as greatly to diminish the crop. It is fond of a soil well manured, and as it is frequently sown to seed on dunghills, it by that means often becomes more generally disseminated: farmers cannot be too careful in weeding their dunghills: they are not aware of the amazing increase from a single plant of the *Anthemis Cotula*, *Rumex crispus*, *Cenopodium album*, or many others equally, if not more, injurious.

We have observed the petals to vary much in length and breadth, and Botanists have sometimes found it with double flowers.

It differs greatly in its qualities from the *Anthemis nobilis* and *Matricaria Chamomilla*, has never been much in use, nor are its medicinal effects well known. Decoctions of it are said sometimes to have been employed as a bath or fomentation against hysteric suffocations, and hæmorrhoidal pains and swellings. Mr. RAY says, that a decoction of the herb has by some been given internally, with success, in scrophulous cases. BROWN LANGRISH gives an account of a decoction of it throwing a person afflicted with rheumatism into a profuse sweat, and curing him. *Land's Mat. Med. p. 223. Ed. Mat. Med. Chamomilla.*





*Anthemis Cotula.*









*Matricaria Chamomilla.*

*J. Smarby del. et sculp.*



# MATRICARIA CHAMOMILLA. CORN FEVERFEW, OR CAMOMILE.

MATRICARIA *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

*Recept. nudum. Pappus nullus. Cal. hemisphæricus, imbricatus: marginalibus solidis, acutiusculis.*

*Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.*

MATRICARIA *Chamomilla* receptaculis conicis, radiis patentibus, squamis calycinis margine æqualibus. *Lin. Syst. Vegetab. p. 643. Sp. Pl. p. 1256. Fl. Suec. n. 764.*

MATRICARIA foliis planis capillaribus, duplicato-pinnatis, pinnulis lanceolatis bifidis trifidisque. *Haller. hist. n. 101.*

CHAMÆMELUM vulgare, *Leucanthemum* Dioscoridis. *Bauh. pin. 135.*

CHAMÆMELUM *Gerard. emac. 754.*

CHAMÆMELUM vulgare *Parkinsf. 85. (qui vulgare cum nobili confundit) Raii Syn. p. 185. Hudson Fl. Angl. ed. 2. p. 372. Lightfoot Fl. Scot. p. 491.*

RADIX annua, simplex, fibrosa.

CAULIS pedalis, ad sesquipedalem, erectus, ramosus, subangulosus, striatus, lævis.

FOLIA saturate viridia, alterna, sessilia, lævia, pinnata, pinnis linearibus, inferioribus simplicibus, superioribus ramosis, pinnulis acutis, mucronatis, divaricatis, costa semilineam lata, carinata.

PEDUNCULI erecti, striati, nudi, superne subincrassati.

FLORES albi, disco e luteo-virescente.

CALYX communis hemisphæricus, squamis plurimis, imbricatis, obtusiusculis, apice fusciscentibus, submembranaceis, longitudine fere tubi flosculorum femineorum in radio, *fig. 1.*

FLOSCULI radii 13 circiter, feminei, oblongi, sesquilineam lati, bisulci, tridentati, dentibus obtusiusculis, *fig. 2.* STIGMA bifidum, flavum, laciniis reflexis, *fig. 3.*

FLOSCULI disci, numerosi, tubulosi, hermaphroditi, quinqueidentati, *fig. 4.* STIGMA bifidum, laciniis reflexis, *fig. 5.*

SEMINA numerosa, minuta, pallide fusca, oblonga, fulcata, *fig. 6.*

RECEPTACULUM oblongum nudum.

ROOT annual, simple, and fibrous.

STALK a foot, or a foot and a half high, upright, branched, somewhat angular, striated, and smooth.

LEAVES of a deep green colour, alternate, sessile, smooth, pinnated, the pinnæ linear, the lower ones simple, the upper ones branched, the pinnulæ or small pinnæ sharp and terminating in a short point, divaricating, the midrib half a line broad, and keeled.

FLOWER STALKS upright, striated, naked, a little thickened above.

FLOWERS white, the disk of a yellowish-green colour.

CALYX common to all the florets, hemispherical, scales numerous, imbricated, somewhat obtuse, the tips brownish, and a little membranous, almost the length of the tube of the female flowers in the circumference, *fig. 1.*

FLOWERS of the radius about 13 in number, female, oblong, a line and a half broad, two-grooved, three-toothed, teeth bluntish, *fig. 2.* STIGMA bifid, yellow, the segments turned back, *fig. 3.*

FLOWERS of the disk, numerous, tubular, hermaphrodite, five-toothed, *fig. 4.* STIGMA bifid, the segments turned back, *fig. 5.*

SEEDS numerous, minute, of a pale brown colour, oblong and grooved, *fig. 6.*

RECEPTACLE oblong and naked.

The *Matricaria Chamomilla*, *Anthemis Cotula*, and *Chrysanthemum inodorum*, are three very common plants in the neighbourhood of London; as the two first are extremely similar in their general appearance, and are often found growing together, we have published them in the same number, that an opportunity might be afforded of comparing and contrasting them.

PARKINSON, deceived by their great similarity, makes only one plant of them; *Mayweed*, says he, is so like unto Chamomile, that I must needs join them together.

The student who is acquainted with the mode of investigating the generic character of each, will quickly distinguish the one from the other; on dissecting the heads, he will find the pointed paleæ which are fixed to the receptacle of the *Anthemis* totally wanting in the *Matricaria*; but this knowledge, though highly necessary, is not sufficient for those who would wish to know plants at first sight, which is always desirable; we shall therefore, in addition to the generic character, point out several others, in which they have appeared to us materially to differ from each other.

Their place of growth affords but little distinction, they are both natives of corn-fields, both grow in them in the greatest abundance, often together, frequently separate, nor is it unusual to find them on the confines of dunghills, and by road-sides; they both flower at the same time, from May to July and August, both are annuals, and grow nearly to the same height, but in the following particulars they differ: the whole plant in the *Matricaria* puts on a deep green colour, and somewhat shining appearance; the *Anthemis*, on the contrary, assumes a much paler hue, and the stalk is often covered with a kind of woolly substance: the leaves in the *Matricaria* are nearly as fine as those of fennel, which they distantly resemble; in the *Anthemis* they are almost twice as broad, and the points of them, which in the *Matricaria* are simple, in the *Anthemis* are often bifid.

The Petals in both these plants begin to hang down in the evening, and continue to do so till morning; but those of the *Anthemis* are in general much broader than those of the *Matricaria*, and somewhat shorter; but, in this particular, both plants are subject to great variation; the disk of the flower in the *Anthemis* is not so prominent, but of a lighter yellow than that of the *Matricaria*. Such are the characters which present themselves to the eye of an accurate observer, but there is another which will greatly assist to corroborate, confirm, and render it impossible for the plants to be mistaken, *viz.* the smell; if the heads of the *Matricaria* are bruised, they will be found to emit a strong smell, somewhat resembling the true Chamomile, but not so pleasant, while the heads of the *Anthemis*, treated in the same manner, smell intolerably disagreeable; another circumstance may also be added, the *Matricaria* is not known to blister the skin, in which alone it is perhaps less mischievous to the husbandman than the other: nor is the character which may be drawn from the seeds to be despised, those of the *Anthemis* being broad and truncated at top, wrinkly, and of a deep brown colour when ripe, those of the *Matricaria* much smaller, paler, and different in their shape, *vid. fig. 6.*

July 7th, we discovered several larvæ feeding on this species, which produced the *Cassida viridis*.—Cattle in general refuse the *Matricaria*.—In Sweden the flowers are used medicinally instead of the *Anthemis nobilis*.

Mr. HUDSON, in our opinion, is perfectly justified, in making one plant of the *Matricaria Chamomilla* and *suaveolens*; Mr. LIGHTFOOT, in his *Flora Scotica*, previously suggested that they were the same. We are surprised that Professor MURRAY should adopt a species founded on such vague characters as *radiis deflexis* and *radiis patentibus*.









# POA AQUATICA. WATER MEADOW GRASS.

POA *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

*Cal.* 2-valvis, multiflorus. *Spicula* ovata: valvulis margine scariosis acutiusculis.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *aquatica* panicula diffusa, spiculis sexfloris linearibus. *Lin. Syst. Vegetab.* p. 97. *Sp. Pl.* p. 98. *Fl. Suec.* n. 26.

POA altissima, foliis latissimis, panicula amplissima, locustis distichis multifloris. *Haller hist.* n. 1454.

POA *aquatica*. *Scopoli Fl. Carn.* n. 105.

GRAMEN aquaticum paniculatum latifolium, *Bauh. Pin.* 3.

GRAMEN aquaticum majus. *Ger. emac.* 6. *Raii Syn.* p. 411. Great Water-Reed-Grass. *Hudson Fl. Angl. ed.* 2. p. 38.

RADIX perennis, repens.

CULMUS tripedalis, ad sepedalem, erectus, foliosus, crassitie culmi arundinacei, superne ubi nudus, teres, lævis, subtilissime striatus; geniculis flavescentibus.

FOLIA semunciam aut unciam fere lata, utrinque glabra, tenuissime striata, carinata, carina marginibusque asperis, ad basin folii utrinque macula triangularis flava, vagina glabra, striata, carina prominente, membrana brevis obtusa.

PANICULA maxima, semipedalis, aut pedalis, erecta, ramosissima.

PEDUNCULI subtrianguli, scabri, superne flexuosi.

SPICULÆ lanceolatae, subcompressae 6—8. florae, colore ex spadiceo et viridi misto.

CALYX: *Gluma* bivalvis, valvulae membranaceae, uninerviæ, ovatae, concavae, interiore brevior et acutior.

COROLLA bivalvis, valvulae subæquales, obtusae, exteriore majore, concava, nervosa, ad basin tuberculata, interiore planiuscula.

STAMINA: FILAMENTA tria, alba, capillaria; ANTHERÆ oblongae, utrinque bifidae, flavæ aut purpureæ.

PISTILLUM: GERMEN ovatum, glabrum; STYLI duo, superne ramosi, inferne nudi, paulo infra apicem prodeuntes.

NECTARIUM: squamula parva truncata, ad basin germinis.

SEMEN testum, hinc convexum, striatum, inde concavum, pallide fuscum.

ROOT perennial, and creeping.

STALK from three to six feet high, upright, leafy, the thickness of a reed straw, on the upper part where it is naked, round, smooth, very finely grooved; the joints yellowish.

LEAVES half an inch and almost an inch broad, smooth on both sides, very finely grooved, keeled, the keel as well as the edges rough, the base of the leaf on each side is marked with a yellow triangular spot, the sheath is smooth and striated, the keel prominent, the membrane short and obtuse.

PANICLE very large, from six inches to a foot in length, upright, very much branched.

FLOWER-STALKS somewhat three-cornered, rough, crooked above.

SPICULÆ lanceolate, somewhat flattened, containing from six to eight flowers, variegated with green and purple.

CALYX: a *Glume* of two valves, the valves membranous, one-ribbed, ovate, concave, the innermost shorter and more pointed than the other.

COROLLA composed of two valves, which are nearly equal, obtuse, the outer one largest, concave, ribbed, with a small tubercle at the base, the inner one nearly flat.

STAMINA: three, white, capillary FILAMENTS; ANTHERÆ oblong, bifid at each end, yellow or purple.

PISTILLUM: GERMEN, ovate, smooth; STYLES two, branched above, naked below, proceeding from a little below the top.

NECTARY: a small truncated scale at the base of the germen.

SEED covered, convex and striated on one side, concave on the other, of a pale brown colour.

The *Poa aquatica* is one of the largest as well as the most useful of our grasses; it constitutes a great part of the riches of Cambridgeshire, Lincolnshire, and other counties, where draining the land by means of windmills has taken place; immense tracts of territory that used to be overflowed and produce useless aquatics, but which still retain much moisture, are, by the above process, spontaneously covered with this grass, which not only affords rich pasturage for their cattle in the summer, but forms the chief part of their winter fodder.

It has a powerfully creeping root, and bears frequent mowing well (we have known it cut thrice in one season in the vicinity of the Thames); hence it is apt to gain the ascendancy over, rather than be overcome by other plants.

It grows not only in very moist ground, but in the water itself: like the Cats-tails, Burr-reed, and several other plants of that kind, it soon fills up the watery ditches which surround the meadows in which it grows, and occasions them to require frequent cleansing; in this respect it is a formidable plant, even in flow rivers.

In the Isle of Ely, they have a particular method of cleansing the rivers, which are liable to be soon choked up by the Arrow-head, Water-lilies, Reeds, &c. by means of an instrument called a Bear, which is an iron roller, in which a number of pieces of iron, like small spades, are fixed; this is drawn up and down the river by horses, which travel on the banks, and tearing up every plant by the roots, they float and are carried away by the stream.

The *Poa aquatica* not only affords sustenance to cattle, but is a favourite food of the Caterpillar of the Gold-spot Moth (*Phalæna Festuæ*, *Lin.*) which LINNÆUS describes as feeding on the *Festuca fluitans*, but which feeds with us chiefly on this grass: the Moth proceeding from this larva, is one of the most beautiful which this country produces; the Caterpillar being smooth and of a green colour, is not easily distinguished from the grass on which it feeds; when full-grown, it usually bends down the top of one of the leaves, and underneath it, makes a thin spinning, in which it changes to chrysalis; this spinning, from its whiteness, is easily discovered; but we must apprise our readers, that these Caterpillars are not very numerous, and that they will be fortunate if they find one or two after a long search; the Moth, Caterpillar, and Chrysalis, are figured in ALBIN'S English Insects; but a much better painting of the Moth may be seen in ROESSEL, *Tom.* 1. *Tab.* 30. We have generally found them at the commencement of harvest, when the wheat has been in sheaf; the Moth comes forth in a week or two.

We observed in the Isle of Ely, a much larger Caterpillar, when full-grown, nearly the size of the *P. Polatoria*, hairy and very beautiful, not uncommon on this grass; but not having the proper convenience for breeding it, we are as yet unacquainted with the Moth it produces, but suspect it will prove a non-descript.

The *Poa aquatica* flowers as late as August and September.





*Poa aquatica.*









*Lysimachia nemorum.*



# LYSIMACHIA NEMORUM. WOOD MONEYWORT, or LOOSESTRIFE.

LYSIMACHIA *Linnæi Gen. Pl.* PENTANDRIA MONOGYNIA.

*Cor.* rotata. *Caps.* globosa, mucronata, 10-valvis.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

LYSIMACHIA *nemorum* foliis ovatis acutis, floribus solitariis, caule procumbente. *Lin. Syst. Vegetab.* p. 165. *Sp. Pl.* p. 211.

LYSIMACHIA caule decumbente, foliis ovato-lanceolatis, petiolis alaribus unifloris. *Haller hist.* p. 278.

ANAGALLIS lutea nemorum. *Bauhin Pin.* p. 252.

ANAGALLIS lutea. *Gerard emac.* 618.

ANAGALLIS flore luteo. *Parkin.* 558.

ANAGALLIS lutea nummulariæ similis. *J. Bauh. III.* 370. *Raii Syn.* p. 282. Yellow Pimpernel of the Woods. *Hudson Fl. Ang.* p. 86. *Lightfoot Fl. Scot.* p. 138.

RADIX perennis, fibrosa, fibris albidis.

ROOT perennial, fibrous, the fibres whitish.

CAULES plures, decumbentes, teretiusculi, utrinque fulcati, idque alterne, læves, rubentes, ex ima parte radican-tes.

STALKS several, decumbent, roundish, with a furrow on each side, and that alternately, smooth, of a red colour, striking root at the base.

FOLIA opposita, petiolata, ovata, acuta, utrinque glabra, subundulata, e flavo-viridia, venis prominulis; petiolis brevibus, latiusculis.

LEAVES opposite, standing on foot-stalks, ovate, pointed, glossy on each side, somewhat waved, of a yellowish-green colour, the veins a little prominent; leaf-stalks short and broadish.

PEDUNCULI axillares, bini five solitarii, teretes, uniflori, tenues, quam folia longiores.

FLOWER-STALKS axillary, growing sometimes in pairs, sometimes singly, round, one-flower'd, slender, and longer than the leaves.

CALYX: PERIANTHIUM quinquepartitum, persistens, laciniis subulatis, subtriangularibus, fig. 1.

CALYX: a PERIANTHIUM deeply divided into five segments, and permanent, the segments awl-shaped, and somewhat triangular, fig. 1.

COROLLA monopetala, flava, *tubus* nullus; limbus quinquepartitus, laciniis ovatis, fig. 2. 3. basi saturatius flavis, nitidisque, in fauce corollæ glandulæ flavæ inter filamenta locantur, et margo corollæ glandulis pedicellatis ornatur, fig. 6.

COROLLA monopetalous, yellow, *tube* wanting, the limb divided into five ovate segments, fig. 2. 3. at bottom more intensely yellow and shining, in the mouth of the corolla small yellow glands are observable betwixt the filaments, and the edge of the corolla is ornamented with little glands standing on foot-stalks, fig. 6.

STAMINA: FILAMENTA quinque, lævia erecta, medio paulo crassiora; ANTHERÆ oblongæ, incurvatæ, fig. 4. 5.

STAMINA: five FILAMENTS, smooth, upright, somewhat thickest in the middle; ANTHERÆ oblong, bent a little downwards, fig. 4. 5.

PISTILLUM: GERMEN subrotundum, læve; STYLUS filiformis, apice paulo crassior; STIGMA simplex, fig. 7.

PISTILLUM: GERMEN roundish, smooth; STYLE filiform, somewhat thickest at top; STIGMA simple, fig. 7.

PERICARPIUM: CAPSULA globosa, unilocularis, fig. 8.

SEED-VESSEL: a globular CAPSULE of one cavity, fig. 8.

SEMINA plurima, orbiculata, plana, fig. 9.

SEEDS numerous, round, and flat, fig. 9.

When the blossoms of this plant are expanded, they somewhat resemble those of the common Pimpernel in shape, and hence the older Botanists, who paid little regard to such minute but necessary distinctions, as the hairiness of the Filaments, &c. considered it as an *Anagallis*; LINNÆUS has joined it with the Moneywort, to which, in its general habit, it bears no small affinity, but from which it essentially differs in many particulars; the leaves, for instance, are more pointed, the flowers are smaller, less bell-shaped, and stand on much longer foot-stalks, and the stalks are generally redder.

This species grows in moist woods, and is not uncommon in the neighbourhood of London; in Charlton-Wood it particularly abounds, flowering from June to September.







# LYCOPSIS ARVENSIS. FIELD, or SMALL WILD BUGLOSS.

LYCOPSIS *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.  
*Corolla tubo incurvato.*

*Raii Syn. Gen.* 13. HERBÆ ASPERIFOLIÆ.

LYCOPSIS *arvensis* foliis lanceolatis hispidis, calycibus florescentibus erectis. *Lin. Syst. Vegetab.* p. 160. *Sp. Pl.* p. 199. *Fl. Suec.* n. 167. *Fl. Lappo*n 77.

LYCOPSIS foliis asperrimis, undulatis, ferratis, linguiformibus. *Hall. hist.* 605.

ECHIUM Fuchii seu Borrago sylvestris. *I. B.* III. 581.

BUGLOSSUM sylvestre minus. *Bauh. pin.* 256. *Parkinsf.* 765. *Dillen. Nov. Gen. Tab.* 3.

BUGLOSSA sylvestris minor. *Ger. emac.* 799. *Raii Syn.* p. 227. *Hudson. Fl. Angl.* p. 82.  
*Lightfoot Fl. Scot.* p. 135.

RADIX annua, simplex, fibrosa, albida.

CAULIS pedalis, et ultra, erectus, subangulosus, hispidus, plerumque superne tantum ramifusus.

FOLIA alterna, sessilia, lanceolata, obtusiuscula, papilloso-hispida, subtus pallidiora, avenia, margine undulata, subrevoluta.

FLORES cærulei, spicati, secundi, sessiles, deorsum spectantes.

BRACTEÆ foliis subsimiles.

CALYX: PERIANTHIUM, quinquepartitum, hispidum, persistens, laciniis oblongis, acutis, longitudine fere corollæ.

COROLLA monopetala, infundibuliformis; *tubus* cylindraceus, curvato-flexus, *fig. 2.* *limbus* femiquinquefidus, obtusus; *faux* clausa squamulis quinque, pilosis, albis, *fig. 3.*

STAMINA: FILAMENTA quinque, minima, ad flexuram tubi corollæ; ANTHERÆ parvæ, fuscæ, *fig. 4.*

PISTILLUM: GERMINA quatuor, viridia, glabra; STYLUS filiformis, longitudine flaminum; STIGMA obtusum, subbifidum, *fig. 5.*

PERICARPIUM nullum, *Calyx* sinu femina fovens, maximus, laciniis conniventibus donec femina nigrescant deinde patentibus.

SEMINA quatuor, majuscula, nigri cantia, reticulato-rugosa, acutiuscula, *fig. 6.*

RECEPTACULUM punctis quatuor fuscis excavatis notatum.

ROOT annual, simple, fibrous, and whitish.

STALK a foot or more in height, upright, slightly angular, hispid, for the most part branched at top only.

LEAVES alternate, sessile, lanceolate, bluntish, hispid, hairs issuing from small papillæ, palest on the under side, veinless, waved at the edge, and slightly rolled back.

FLOWERS blue, growing in spikes, all one way, sessile, and turned backward.

FLORAL-LEAVES somewhat like the leaves themselves.

CALYX: a PERIANTHIUM deeply divided into five segments, hispid, and permanent; the segments oblong, pointed, and almost the length of the corolla.

COROLLA monopetalous, funnel-shaped; *tube* cylindrical, crooked, *fig. 2.* *limb* slightly divided into five segments, obtuse; *mouth* closed by five, small, white, hairy scales, *fig. 3.*

STAMINA: five FILAMENTS, very minute, at the curvature of the tube of the corolla; ANTHERÆ small and brown, *fig. 4.*

PISTILLUM: GERMINA four, green and smooth; STYLE filiform, the length of the stamina; STIGMA obtuse and slightly bifid, *fig. 5.*

SEED-VESSEL none, the *Calyx* which contains the seed in its bosom, is very large, closing together till the seeds grow black, and then spreading.

SEEDS four, largish, nearly black, with a reticulated or wrinkly surface, and a little pointed, *fig. 6.*

RECEPTACLE marked with four round dots, hollowed out.

The *Lycopsis Arvensis* is a very common plant in the corn fields, especially such as are sandy, and on dry banks, in the neighbourhood of London. We have sometimes seen it so plentiful as to be highly injurious to the husbandman: it may be found in blossom from May to July.

The following account of the medicinal virtues of this plant appeared lately in most of our newspapers: without vouching for the truth of the report, we have thought it our duty to lay it before our readers, with a sincere wish that the herb may prove as efficacious in its application, as is here represented.

"The celebrated M. JEAN FONTANA, Member of the learned academy of Turin, has lately published, for the general good of suffering mankind, a specific remedy against the ANTHRAX, or corrosive ulcer, otherwise called Carbuncle, or Plague-Sore. The curative prescription was communicated to him by the person who has administered it for many years to patients of that description, and with constant success. It consists simply in the use of a field-plant, called by Linnæus, LYCOPSIS ARVENSIS. Bruise and pound the plant; lay it on the tumour; fix it there by means of a bandage, and do not touch it before it hath remained twenty-four hours. During the first six or seven hours, the patient will feel a painful and burning heat in the part. It often happens that on taking off the first apparel, the slough gets loose and discovers a wound, which heals in a few days, by applying to it a plaster of the unguent called *Basilicon*. If the case should be otherwise, the first method of cure must be repeated. This second application of the bruised plant, which will not occasion above two hours pain to the patient, will be fully sufficient to remove the slough, and then the use of the above plaster effects a speedy and radical cure."





*Lycopodium arvense*











# EUPHRASIA OFFICINALIS. COMMON EYEBRIGHT.

EUPHRASIA *Lin. Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

*Cal.* 4-fidus, cylindricus. *Caps.* 2-locularis, ovato-oblonga. *Antheræ* inferiores altero lobo basi spinosæ.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

EUPHRASIA *officinalis* foliis ovatis lineatis argute dentatis. *Lin. Syst. Vegetab.* p. 460. *Sp. Pl.* p. 481. *Fl. Suec.* n. 543. *Haller hist.* 303.

EUPHRASIA *officinalis.* *Scopoli Fl. Carn.* n. 753.

EUPHRASIA *officinarum.* *Bauh. pin.* 233. *Ger. emac.* 663. *Parkinsf.* 1329. *Raii. Syn.* t. \* 284. Eyebright, *Hudson Fl. Angl. ed.* 2. p. 268. *Lightfoot Fl. Scot.* p. 325.

RADIX annua, fibrosa, albida.

CAULIS bipollicaris ad palmarem et ultra, erectus, teres, pubescens, purpureus, plerumque ramosus.

FOLIA opposita, ovata, obtusa, ferrato-dentata, dentibus acuminatis, supra convexis, subtus concavis, minutim ciliatis, utrinque hirsutula, supra nitidula, lineata, subtus venosa.

RACEMUS terminalis, foliaceus, erectus, floribus axillaribus, oppositis, sessilibus.

CALYX: PERIANTHIUM monophyllum, ovatum, angulatum, persistens, foliis paulo brevius, pubescens, quadrifidum, laciniis, lanceolatis, acuminatis, erectis, ciliatis, subæqualibus, fig. 1.

COROLLA monopetala, alba, ringens; *Tubus* cylindricus, albus, glaber, longitudine calycis, fig. 2. *Limbus* bilabiatus; *Labium* superius album, subovatum, concavum, pubescens, striis cæruleis utrinque 3, intus pictum, obtusum, erectum, bifidum, lobis emarginatis, fig. 3; inferius superiori paulo majus, trifidum, laciniis omnibus emarginatis, fig. 4. *Faux* undique striata, et picta striis cæruleis, antice vero colore luteo.

STAMINA: FILAMENTA quatuor, subulata, purpurascentia, tubo inserta, fig. 5. ANTHERÆ purpureæ, bilobæ, obtusæ, subtus barbatae, conniventes, lobis spinula terminatis, duabus inferioribus longioribus, fig. 6, 7.

PISTILLUM: GERMEN ovatum, obtusum, barbatum, fig. 8. STYLUS filiformis, superne pubescens, fig. 9. STIGMA obtusum, integrum, fig. 10.

PERICARPIUM: CAPSULA ovato-oblonga, compressa, obtusa, mucronata, bilocularis, fig. 11.

SEMINA plurima, albida, striata, fig. 12.

ROOT annual, fibrous, and whitish.

STALK from two to four inches high, or more, upright, round, hoary, purple, for the most part branched.

LEAVES opposite, ovate, obtuse, ferrated or indented, teeth pointed, above convex, beneath concave, finely edged with hairs, slightly hirsute on each side, above somewhat glossy, with lines impressed, underneath veiny.

RACEMUS terminal, leafy, upright, flowers in the axæ of the leaves, opposite and sessile.

CALYX: a PERIANTHIUM of one leaf, ovate, angular, permanent, a little shorter than the leaves, pubescent, divided into four segments, which are lanceolate, long-pointed, upright, edged with hairs, and nearly equal, fig. 1.

COROLLA monopetalous, white, ringent; *Tube* cylindrical, white, smooth, the length of the calyx, fig. 2. *Limb* two-lip'd; upper *Lip* white, somewhat ovate, hollow, downy, painted on the inside with three blueish streaks on each side, blunt, upright, bifid, the lobes emarginate, fig. 3; the lower lip somewhat larger than the upper, trifid, all the segments emarginate, fig. 4. *Mouth* striated all round, and painted with blueish streaks, but anteriorly of a yellow colour.

STAMINA: four tapering, purplish FILAMENTS inserted into the tube of the corolla, fig. 5. ANTHERÆ purple, two-lob'd, obtuse, bearded underneath, closing together, the lobes terminating in a spine, the two lowermost the longest, fig. 6, 7.

PISTILLUM: GERMEN ovate, obtuse, bearded, fig. 8. STYLE, filiform, downy, on the upper part, fig. 9. STIGMA blunt, and entire, fig. 10.

SEED-VESSEL: an ovate, oblong, CAPSULE, flattened, obtuse, with a short point, of two cavities, fig. 11.

SEEDS several, whitish, and striated, fig. 12.

Eyebright is a very common plant on heaths, and pastures, especially where the soil is chalky; it varies much in size and in the branchedness of its stalk, as well as in the colour and size of its blossoms, and flowers from July to September.

Many writers on the *Materia Medica*, ascribe to this plant wonderful efficacy in disorders of the Eyes: ALSTON says, it has been long reckoned a specific opthalmic, and commended for dim, weak, and watery eyes, for inflamed and sore eyes, for cataracts, &c. yea, it is said to make old eyes become young again, and the blind to see. MILTON, who most probably from his own misfortune, had been induced to look into books of this sort, thus mentions it:

“ but to nobler fights  
“ Michael from Adam's eyes the film remov'd,  
“ Which that false fruit that promis'd clearer sight  
“ Had bred; then purg'd with *euphrasy* and rue  
“ The visual nerve, for he had much to see.”

On the other hand, there are not wanting those who condemn its use, especially in inflammatory complaints of the eyes; a friend of LOBEL's is said nearly to have lost his eyesight by the use of it. In such contrariety of sentiment, it will, perhaps, be most prudent not to lay too much stress on so doubtful a remedy.







# ONOPORDUM ACANTHIUM. COTTON THISTLE.

ONOPORDUM *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Recept. favosum. Cal. squamæ mucronatæ.*

*Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO, SIVE CAPITATÆ.*

ONOPORDUM *Acanthium calycibus squarrosis: squamis patentibus, foliis ovato oblongis sinuatis. Lin. Syst. Vegetab. p. 607. Sp. Pl. p. 1158. Fl. Suec. n. 724.*

ONOPORDUM caule alato, foliis ovatis dentatis, dentibus angulosis aristatis. *Haller hist. n. 159.*

ACANOS *Spina. Scopoli Fl. Carn. n. 1013.*

SPINA alba tomentosa latifolia fylvestris. *Bauh. pin. 382.*

ACANTHIUM album. *Ger. emac. 1149.*

ACANTHIUM vulgare. *Parkin. 1149.*

CARDUUS tomentosus, Acanthium dictus vulgaris. *Raii Syn. 196. Common Cotton Thistle. Hudson Fl. Angl. ed. 2. p. 354. Lightfoot Fl. Scot. p. 459.*

RADIX biennis.

CAULIS tripedalis ad sepedalem, ad basin usque ramosus, sublanuginosus, per totam longitudinem alatus, alis latis, spinosis, spinis lutescentibus, divergentibus.

RAMI longi, diffusi.

FOLIA sessilia, ovata, acuta, decurrentia, sinuata, dentata, seu angulosa, utrinque lanugine incana, inferiora amplissima, longitudine sessipedalia, latitudine fere pedalia, margine spinosa.

FLORES purpurei, erecti, terminales, magnitudine florum Cardui mariani.

CALYX: communis subrotundus, ventricosus, imbricatus, squamis numerosis, spinosis, undique prominentibus, spinis apice luteis, basi pilis albis intertextis, fig. 1.

COROLLA: composita, tubulosa, uniformis; Corollulæ hermaphroditæ, æquales, monopetalæ, infundibuliformes, tubo tenuissimo, fig. 2. limbo erecto, ventricoso, quinquefido, laciniis æqualibus, linearibus, fig. 3.

STAMINA: FILAMENTA quinque, capillaria, brevissima; ANTHERÆ purpureæ, in cylindrum coalitæ, quinque-dentatæ, fig. 4.

PISTILLUM: GERME ovatum, fig. 6. STYLUS filiformis, staminibus longior; STIGMA bifidum, fig. 5.

PERICARPIUM nullum, Calyx arcte connivens.

SEMINA obovata, subcompressa, obsolete angulata, rugosa, nigricantia, fig. 7. Pappus sessilis, ad lentem hispidulus, fig. 8.

RECEPTACULUM cellulis membranaceis, tetragonis, reticulatum, favi instar, fig. 9.

♦ ROOT biennial.

♦ STALK from three to six feet high, branched down to the bottom, somewhat woolly, winged throughout its whole length, wings broad and spinous, the spines yellowish and diverging.

♦ BRANCHES long, and spreading.

♦ LEAVES sessile, ovate, pointed, running down the stalk, sinuated and indented or angular, covered on both sides with a kind of white woolly down, the lowermost leaves very large, a foot and a half long, and almost a foot in breadth, spinous on the edge.

♦ FLOWERS terminal, purple, upright, the size of those of the Milk Thistle.

♦ CALYX: common to all the florets, somewhat round, bellying out, and imbricated, the scales numerous, spinous, projecting on every side, the spines yellow at the points, and at the base interwoven with white hairs, fig. 1.

♦ COROLLA compound, tubular, uniform, Florets hermaphrodite, equal, monopetalous and funnel-shaped, tube very slender, fig. 2. limb upright, bellying out, divided into five equal linear segments, fig. 3.

♦ STAMINA: five capillary, very short FILAMENTS; ANTHERÆ purple, forming a cylindrical tube, terminating above in five teeth, fig. 4.

♦ PISTILLUM: GERME ovate, fig. 6. STYLE filiform, longer than the stamens; STIGMA bifid, fig. 5.

♦ SEED-VESSEL none, the Calyx closing strongly together.

♦ SEEDS inversely ovate, a little flattened, faintly angular, wrinkled, blackish, fig. 7. Down sessile, slightly hispid when magnified, fig. 8.

♦ RECEPTACLE reticulated with square, membranous cells, like a honeycomb, fig. 9.

When the Cotton-Thistle grows to its full size, in a pure air, uncontaminated by London Smoke, the grandeur and snowy whiteness of its foliage render it highly conspicuous and ornamental.

With us it grows most commonly on the sunny side of dry banks, and occasionally among rubbish, but very seldom in open fields; hence it proves very little injurious to the husbandman.

It is distinguished from the Carduus tribe, by having a receptacle somewhat like a honeycomb, *vid. fig. 9.* It differs also in another circumstance. When the flowering is over, the innermost scales of the calyx close strongly together, and preserve the seed; in the Thistles, as soon as the seed is ripe, the first hot day opens the heads, expands the pappus, and the least wind carries away the seed; in the Onopordum they remain shut up, and strongly defended, nor can they commit themselves to the earth, or be eaten by birds, till long exposure to the weather has decayed the calyx which encloses them; on this account, they may afford sustenance to birds later in the year, when similar food is not to be obtained.

June and July are the principal months of its flowering.

It is not very subject to the depredations of insects, and it is defended by its strong spines from the attacks of most quadrupeds.





*Cirsium scaberrimum*









*Alopecurus geniculatus.*



# ALOPECURUS GENICULATUS. JOINTED FOX-TAIL GRASS.

ALOPECURUS *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

*Cal.* 2-valvis. *Cor.* 1-valvis.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

ALOPECURUS *geniculatus* culmo spicato infracto, corollis muticis, *Lin. Syst. Vegetab. p.* 93. *Sp. Pl.* 89. *Fl. Suec. n.* 60. *Haller. hist. n.* 1541.

ALOPECURUS *geniculatus* culmo adscendente, spica cylindrica, glumis apice divergentibus pilosis. *Hudson Fl. Angl. ed. 2. p.* 27.

ALOPECURUS *geniculatus* *Scopol. Fl. Carn. n.* 82.

GRAMEN aquaticum geniculatum spicatum. *Bauh. pin.* 3. *Scheuchz. Agroft.* 72.

GRAMEN fluviatile spicatum. *Ger. emac.* 14.

GRAMEN aquaticum spicatum. *Parkinsf.* 1373. *Raii Syn.* 396. Spiked Flote Grass. *Lighthfoot, Fl. Scot. p.* 92. *Oeder Fl. Dan.* 564.

RADIX	perennis, fibrosa, fibris albicantibus, et quandoque subfuscis.	ROOT	perennial, fibrous, the fibres whitish, sometimes inclined to brown.
CULMI	plures, pedales, sesquipedales et ultra, inferne procumbentes, et sæpe repentes, suberecti, geniculati, infracti, ramosi, superne nudi, striati, præsertim in solo arido plus minus bulbofo.	STALKS	several, a foot, a foot and a half or more in length, below procumbent, and often creeping, nearly upright, jointed, crooked, above naked and striated, branched, the base especially in a dry soil more or less bulbous.
FOLIA	duo aut tres lineas lata, striata, superne digitis deorsum ductis aspera, inferne lævia, superiora brevia, uncialia aut biuncialia, patentia, sæpe ad margines crispa; <i>membrana</i> ad basin folii ovata, acuta; <i>vaginæ</i> læves, striatæ, ventricosæ.	LEAVES	two or three lines broad, striated, the upper side if drawn backwards betwixt the fingers rough, the under side smooth, the uppermost leaves short, an inch or two inches long, spreading, often crimped at the edges; the <i>membrane</i> at the base of the leaf, ovate and pointed, the <i>sheaths</i> smooth, striated, and bellying out.
SPICÆ	unciales, sesquiunciales et ultra, subcylindraceæ, forma et colore maxime variantes, nunc obtusæ nunc ad apicem sensim attenuatæ, virescetes, purpurascetes, aut etiam nigricantes procul saltem visæ.	SPIKE	an inch, an inch and a half or more in length, somewhat cylindrical, varying greatly both in form and colour, sometimes blunt, and sometimes tapering to a point, greenish, purplish, and even blackish, at least when viewed at a distance.
FLOSCULI	imbricati.	FLORETS	imbricated.
CALYX	GLUMA uniflora, bivalvis, compressa, valvulis oblique truncatis, pubescentibus, trinerviis, carina ciliata, <i>fig.</i> 1.	CALYX	a GLUME of two valves, containing one flower, flattened, the valves obliquely truncated, downy, three-ribb'd, the keel ciliated, <i>fig.</i> 1.
COROLLA	GLUMA univalvis, oblonga, ovata, truncata, quinquenervis, pellucida, nuda, aristata, <i>fig.</i> 2. <i>Arista</i> juxta basin exserta corolla duplo longiore, <i>fig.</i> 3.	COROLLA	a GLUME of one valve, oblong, ovate, truncated, five-rib'd, pellucid, without hairs, and bearded, <i>fig.</i> 2. the <i>Beard</i> or awn proceeding from near the base, and twice the length of the corolla, <i>fig.</i> 3.
STAMINA	FILAMENTA tria, corollâ longiora; ANTHERÆ oblongæ, primum purpureæ, demum ferrugineæ, <i>fig.</i> 4.	STAMINA	three FILAMENTS, longer than the corolla; ANTHERÆ oblong, at first purple, afterwards ferruginous, <i>fig.</i> 4.
PISTILLUM	GERMEN subrotundum; STYLI duo, cirrhosi, albidi, extra calycem protensi, <i>fig.</i> 5.	PISTILLUM	GERMEN roundish; STYLES two, slender, feathery, and extended beyond the calyx, <i>fig.</i> 5.

It is in the depressed parts of meadows, where water is occasionally apt to stagnate, that this species of Fox-Tail Grass particularly delights to grow, nor is it unfrequent on the edges of ponds, streams, and wet ditches, where it often makes its way into the water; it is also, though more rarely, found in dry pastures; and, according to these several situations, it is found to vary.

In the first, the stalks are procumbent at the base, spread themselves on the ground, and extend a foot or more in length; before they rise upwards, the spikes often assume a blackish or deep purple colour, which causes it to be noticed by the Farmer, who distinguishes it by the name of Black Grass\*. In the second, it is very much enlarged in its size, and approaches near to the *Alopecurus pratensis*; but the stalk still retains towards the bottom its crooked appearance. In the third, it grows more upright, the spike becomes much slenderer, and the base of the stalk often swells out into a kind of bulb, as in the *Avena elatior*, and this variety has been called *Alopecurus bulbosus*; in all these several varieties, the *geniculatus* cannot easily be mistaken for any other species of *Alopecurus*.

It flowers in June.

Cattle eat it readily, nevertheless it cannot be recommended as a profitable Grass; nor do the more observing Farmers consider it as such: indeed, where such Grass is apt to abound, the best practice would be to fill up the depressions, and sow the ground with better Grasses.

\* The Farmer also distinguishes the *Alopecurus agrestis* (*myosuroides*, *Fl. Lond.*) by the name of Black Grass.







# ORIGANUM VULGARE. WILD MARJORAM.

ORIGANUM. *Lin. Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

*Strobilus tetragonus, spicatus, calyces colligens. fig. 6.*

*Raii Synop. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.*

ORIGANUM *vulgare* spicis subrotundis paniculatis conglomeratis, bracteis calyce longioribus ovatis. *Lin. Syst. Vegetab. p. 452. Spec. Pl. p. 824. Fl. Succ. n. 534.*

ORIGANUM foliis ovatis, umbellis coloratis, staminibus exsertis. *Haller hist. n. 233.*

ORIGANUM *vulgare. Scopoli Fl. Carn. n. 740.*

ORIGANUM *fylvestre. Bauh. pin. 223.*

ORIGANUM *anglicum. Ger. emac. 666.*

MAJORANA *fylvestris. Park. 12.*

ORIGANUM *vulgare spontaneum. Bauh. hist. III. 236.*

*Raii Syn. 236. Wild Marjoram. Hudson Fl. Angl. ed. 2. p. 262. Lightfoot Fl. Scot. p. 317.*

RADIX	perennis, repens, horizontalis, fusca, plurimis fibris capillata.	ROOT	perennial, creeping, horizontal, brown, tufted with numerous fibres.
CAULIS	pedalis, ad sesquipedalem, erectus, tetragonus, purpurascens, pubescens, ramosus.	STALK	a foot or a foot and a half high, upright, four cornered, purplish, downy, and branched.
RAMI	oppositi, erecti, caule teneriores, in cæteris conformes.	BRANCHES	opposite, upright, more tender than the stalk, in other respects similar.
FOLIA	ad genicula, opposita, petiolata, ovata, acuta, minutim et rariter dentata, supra glabriuscula, subtus pubescentia, utrinque punctata, margine minutim ciliata, patentia.	LEAVES	placed at the joints, opposite, standing on foot-stalks, ovate, pointed, finely and rarely toothed, above nearly smooth, beneath downy, dotted on both sides, the edge finely fringed, spreading.
PETIOLI	pubescentes.	LEAF-STALKS	downy.
AXILLÆ	foliorum in planta culta foliolis onustæ.	ALÆ	of the leaves, in the cultivated plant, bearing numerous small leaves.
FLORES	paniculati, <i>panicula</i> e spicis plurimis, subrotundis, conglomeratis composita.	FLOWERS	forming a <i>panicle</i> , composed of numerous, roundish spikes, growing in clusters.
BRACTEÆ	ovato-lanceolatæ, sessiles, concavæ, integre, corollâ intensius coloratæ, ad lentem pubescentes, floribus subjectæ singulæ, <i>fig. 1.</i>	FLORAL-LEAVES	ovato-lanceolate, sessile, concave, entire, more deeply coloured than the corolla, appearing downy when magnified, placed one under each flower, <i>fig. 1.</i>
CALYX	PERIANTHIUM monophyllum, tubulatum, striatum, subpubescens, pedicellatum, longitudine fere bractæ, ore barbato, quinquefido, laciniis acutis, erectis, æqualibus, purpureis, <i>fig. 2.</i>	CALYX	A PERIANTHIUM of one leaf, tubular, striated, slightly downy, standing on a short foot-stalk, and almost the length of the floral-leaf, the mouth bearded, divided into five, pointed, upright, equal, purple segments, <i>fig. 2.</i>
COROLLA	infundibuliformis, purpurea, <i>tubus</i> villosus, sensim sursum ampliatus, calyce longior, <i>limbus</i> bilabiatus, <i>labium superius</i> erectum, bifidum, obtusum, <i>inferius</i> trifidum, patens, obtusum, <i>fig. 3.</i>	COROLLA	funnel-shaped, purple, the <i>tube</i> villous, gradually enlarged upwards, longer than the calyx, the <i>limb</i> composed of two lips, the <i>upper lip</i> upright, bifid and obtuse, the <i>lower lip</i> trifid, spreading and obtuse, <i>fig. 3.</i>
STAMINA	FILAMENTA quatuor, purpurea, corollâ paulo longiora, duobus inferioribus paulo longioribus; ANTHERÆ didymæ, saturatius coloratæ, <i>fig. 4.</i>	STAMINA	four purple FILAMENTS, a little longer than the corolla, the two lowermost somewhat the longest; ANTHERÆ double, and more deeply coloured, <i>fig. 4.</i>
PISTILLUM	GERMEN quadripartitum; STYLUS filiformis, corollâ longior; STIGMA bifidum, acutum, revolutum, <i>fig. 5.</i>	PISTILLUM	GERMEN divided into four parts. STYLE filiform, longer than the corolla; STIGMA bifid, pointed, and turned back, <i>fig. 5.</i>
SEMINA	quatuor, ovata, in sinu calycis conniventis.	SEEDS	four, ovate, in the bottom of the calyx, which closes over them.

This aromatic and ornamental plant, grows wild on dry chalky hills, and gravelly ground, in most parts of Great Britain, though sparingly in the vicinity of London. It flowers in July and August.

The leaves and flowery tops of *Origanum* have an agreeable aromatic smell, and a pungent taste, warmer than that of the Garden Marjoram, and much resembling Thyme; with which they appear to agree in medicinal virtue. Infusions of them are sometimes drank as tea, in weakness of the stomach, disorders of the breast, for promoting perspiration, and the fluid secretions in general; they are sometimes used also in nervine and antirheumatic baths; and the powder of the dried herb as an errhine. Distilled with water, they yield a moderate quantity of a very acrid and penetrating essential oil, smelling strongly of the *Origanum*, but less agreeable than the herb itself: this oil is applied on a little cotton for easing the pains of carious teeth; and sometimes diluted and rubbed on the nostrils, or snuffed up the nose, for attenuating and evacuating mucous humours. *Lewis M. Med. p. 469.*

It dyes linen cloth of a reddish brown colour; for this purpose the linen is first macerated in alum water and dried; it is then soaked for two days in a decoction of the bark of the crab-tree; it is wrung out of this, boiled in a ley of ashes, and then suffered to boil in the decoction. *Haller hist. Helv. p. 102.*

According to LINNÆUS, it dyes woollen cloth also of a purple colour; is sometimes used as a succedaneum for tea, and added to beer to make it more quickly intoxicate, as likewise to prevent it from too quickly turning sour.





*Origanum vulgare.*









*Mercurialis annua.*



# MERCURIALIS ANNUA. ANNUAL, or FRENCH MERCURY.

MERCURIALIS *Lin. Gen. Pl.* DIOECIA ENNEANDRIA.

MASC. Cal. 3-partitus. Cor. o. Stam. 9-f. 12. Antheræ globosæ didymæ.

FÆM. Cal. 3-partitus. Cor. o. Styli 2. Caps. dicocca, 2-locularis, 1-sperma.

MERCURIALIS *annua caule brachiato, foliis glabris, floribus spicatis. Lin. Syst. Vegetab. p. 746. Spec. Pl. p. 1465.*

MERCURIALIS *caule annuo, brachiato, foliis conjugatis, ovato lanceolatis, glabris. Haller hist. n. 1600.*

MERCURIALIS *Cynocrambe Scopoli Fl. Carn. n. 1226.*

MERCURIALIS *tesliculata, five mas Diosc. et Plinii. Bauhin pin. 121.*

MERCURIALIS *spicata, five fæmina, Diosc. et Plinii. Bauhin pin. 121.*

MERCURIALIS *vulgaris mas et femina. Park. 295.*

MERCURIALIS *mas et femina. Ger. emac. 332.*

MERCURIALIS *annua glabra vulgaris. Raii Syn. p. 139. French Mercury, the male and female, Hudson. Fl. Angl. ed. 2. p. 435.*

RADIX annua, fibrosa, alba.

CAULIS pedalis ad sesquipedalem, erectus, glaber, ad basin usque ramosus, geniculatus, geniculis incrassatis, subcompressis, anceps, idque alterne.

RAMI alterne oppositi, foliosi, cauli subsimiles.

FOLIA opposita, petiolata, ovata, obtusiuscula, patentia, basi biglandulosa, obtuse serrata, ad lentem ciliata, utrinque glabra, lucidiuscula, venosa.

PETIOLI foliis multo breviores, glabri, supra canaliculati.

STIPULÆ quatuor, ad genicula, utrinque binæ, minimæ.

PEDUNCULI florum masc. axillares, oppositi, erecti, nudi, filiformes, foliis longiores, subtetragoni, superne proferentes glomerulos plures florum, sessiles, odore sambuci.

CALYX: PERIANTHIUM tripartitum, foliolis ovatis, acutis, patentibus, fig. 1.

COROLLA nulla.

STAMINA: FILAMENTA plerumque novem, alba, capillaria; ANTHERÆ didymæ, flavæ, fig. 2.

FLORES FÆMINEI in distinctâ plantâ.

PEDUNCULI axillares, foliis breviores, sæpius biflori, inter flores fæmineos aliquando observatur masculus imperfectus, longius productus.

CALYX ut in mare, nisi quod foliola paulo minora, fig. 3.

COROLLA nulla.

NECTARIA duo, subulata, utrinque ad latus germenis solitaria, fig. 4.

PISTILLUM: GERMEN subrotundum, didymum, compressum, hispidum; STYLUS vix ullus; STIGMATA duo, subulata, patentia, longitudinaliter superne hispida, fig. 5.

PERICARPIUM: CAPSULA didyma, echhinata, bilocularis.

SEMEN unicum in singulo loculamento globosum, extus castaneum, intus album.

ROOT annual, fibrous, of a white colour.

STALK a foot or a foot and a half high, upright, smooth, branched quite to the bottom, jointed, the joints swelled, and somewhat flattened, a prominent line runs on each side of the stalk, from one joint to another, and that alternately.

BRANCHES alternately opposite, leafy, somewhat like the stalk.

LEAVES opposite, standing on footstalks, ovate, bluntish, spreading, having two glands at the base, obtusely serrated, if magnified edged with hairs, smooth on each side, somewhat glossy, and veiny.

LEAF-STALKS much shorter than the leaves, smooth, channelled above.

STIPULÆ four at each joint, two on each side, very minute.

FLOWER-STALKS of the male flowers axillary, opposite, upright, naked, filiform, longer than the leaves, somewhat four-cornered, producing towards the top, several round, sessile, small clusters of flowers, having the smell of elder.

CALYX: a PERIANTHIUM deeply divided into three segments, which are ovate, pointed, and spreading, fig. 1.

COROLLA wanting.

STAMINA: generally nine FILAMENTS, white and very fine; ANTHERÆ double, and yellow, fig. 2.

FEMALE FLOWERS on a separate plant.

FLOWER-STALKS axillary, shorter than the leaves, generally sustaining two flowers; among the female flowers we sometimes find an imperfect male flower standing on a longer footstalk.

CALYX as in the male, except that the leaves are a little smaller, fig. 3.

COROLLA wanting.

NECTARIES two, tapering, one growing singly on each side of the germen, fig. 4.

PISTILLUM: GERMEN roundish, double, flattened, hispid; STYLE scarce any; STIGMATA two, tapering, spreading, on the upper side hispid lengthwise, fig. 5.

SEED-VESSEL a twin CAPSULE, prickly, having two cavities.

SEED one in each cavity, globular, chestnut coloured without, white within.

We can discover no satisfactory reason for calling this species by the name of French Mercury, as it is not peculiar to France, but found with us, in a variety of places: RAY mentions it as growing plentifully on the sea-beach, near Ryde, in the Isle of Wight; and PARKINSON, near a village called Brookeland, in Romney-Marsh, Kent: it would appear to be more common now than formerly, as we very frequently meet with it in waste places, by the sides of roads, and in neglected gardens, in the neighbourhood of London.

The



The Dogs Mercury was at one period thought to be an innocent plant, its poisonous qualities were discovered by accident: the Annual, or French Mercury, has, at present, the reputation of being not only harmless, but to possess medicinal virtues; it is of some consequence then for us rightly to distinguish the two, and in this there is little difficulty. The Dogs Mercury has a strong, creeping, perennial root; this an annual one: the Dogs Mercury flowers only in the Spring; this the whole Summer long: the Dogs Mercury has an unbranched stem; this a stalk branched down to the bottom.

The Annual Mercury has been ranked among the emollient oleraceous herbs; it is said gently to loosen the belly; its principal use has been in glysters.

The whole plant, particularly when in flower, has a strong smell of Elder.

The fine blue colour which the *Dogs Mercury* acquires in drying, has induced several persons to believe, that the plant, if properly treated, might be made, as well as many others, to produce Indigo: this induced Mr. MACINTOSH, an ingenious young gentleman of Glasgow, to make the following chemical analysis of it, with which he was so obliging as to favour me; and though it does not come under the proper plant, we apprehend no apology will be necessary for inserting it here.

“ The whole plant, on being put into water, gives out a fine blue colour, which is immediately changed into a green by the addition of an alkali; but an acid has not the power of changing its colour into red, as it does most blue liquors, it only weakens the blue, and if a large quantity be added, it nearly destroys it. The whole plant, on being dried, assumes a blue colour, which it gives out readily to water; but in all cases, if a boiling heat be used, it only acquires a deep dirty green, which changes gradually into a brownish red. Upon agitating violently the blue liquor, I always found it was changed into a brown colour, the blue being entirely lost, and not to be recovered by any means I could fall upon. There falls during this process, a small quantity of precipitate, which is also brown. If the blue liquor be evaporated, the whole is likewise changed into the same brownish colour, and a similar precipitate falls, which, on being put into water, gives it a dark red colour. Newly-slacked lime put into the blue liquor, first changes it into a green, which is very soon after destroyed. I have observed in the beginning of the evaporation, a blue fecula upon the sides of the vessel, but always before the end of the process, the whole was of the brownish colour mentioned above.”





# SPIRÆA ULMARIA. MEADOW-SWEET.

SPIRÆA *Lin. Gen. Pl.* ICOSANDRIA PENTAGYNIA.

*Cal.* 5-fidus. *Petala* 5. *Caps.* polyspermæ.

*Raii Syn. Gen.* 15. HERBÆ SEMINE NUDDO POLYSPERMÆ.

SPIRÆA *Ulmaria* foliis pinnatis : impari majore lobato, floribus cymosis. *Lin. Syst. Vegetab.* p. 393. *Sp. Pl.* p. 702. *Fl. Suec.* n. 440.

FILIPENDULA foliis pinnatis, acute ferratis, minimis intermissis, extrema trilobata maxima. *Haller. hist.* n. 1135.

SPIRÆA *Ulmaria* *Scopoli Fl. Carn.* n. 603.

BARBA CAPRI floribus compactis. *Bauh. Pin.* 164.

ULMARIA *J. B.* III. 488.

REGINA PRATI *Ger. emac.* p. 1043.

ULMARIA vulgaris. *Parkin.* 592. *Raii Syn.* p. 259. Meadow-Sweet. *Hudson Fl. Angl. ed.* 2. p. 217. *Lightfoot Fl. Scot.* p. 259.

RADIX	perennis, crassitie minimi digiti, obliqua, rubicunda, fibris plurimis ex fusco lutescentibus descendentibus instructa.	ROOT	perennial, the thickness of the little finger, oblique, reddish, furnished with numerous fibres of a brownish yellow colour, running deep into the earth.
CAULIS	bi seu tripedalis et ultra, erectus, foliosus, angulatus, glaber, hinc inde rubicundus, plerumque simplex.	STALK	from two to three feet high or more, upright, leafy, angular, smooth, here and there of a reddish colour, for the most part unbranched.
FOLIA	alterna, petiolata, pinnata, 3-vel 5-juga : foliolis oppositis, sessilibus, ovato-oblongis, supra viridibus, glabris, lucidiusculis, lineatis, minutim venulosis, rugosis, subtus nervosis, minutim tomentosis, cinereis, margine inciso-dentatis, undique ferratis, minutim ciliatis ; terminatis foliolo majore, trifido-palmato.	LEAVES	alternate, standing on foot-stalks, pinnated, pinnæ from three to five pair, opposite, sessile, ovato-oblong, above green, smooth and somewhat shining, minutely veined, and wrinkled, the veins impressed, beneath ribbed, covered with an ash-coloured downy substance, the edge jagged, ferrated, and finely edged with hairs, the terminal pinna large and deeply divided into three segments.
PETIOLI	subtus convexi, supra concavi ; radicales triplo longiores.	LEAF-STALKS	convex beneath, concave above, those of the radical leaves three times as long as the others.
STIPULÆ	amplexicaules, acutæ, margine undique ferratæ, minutim ciliatæ ; <i>partiales</i> in petiolo communi intra singulum par pinnarum, sub oppositæ, parvæ, inequales magnitudine, ovatæ, dentato-ferratæ, pariter subtus tomentosæ.	STIPULÆ	stem-clasping, pointed, ferrated, and finely edged with hairs, the <i>partial</i> ones on the common foot-stalk betwixt each pair of pinnæ, nearly opposite, small, unequal in size, ovate, indented or ferrated, and like the pinnæ downy underneath.
CORYMBUS	terminalis, erectus, minutim pubescens, pedunculatus, nudus, compositus e cymis plurimis inæqualibus, intermedia sessili.	CORYMBUS	terminal, upright, slightly pubescent, stalked, naked, composed of several unequal cymæ, the intermediate one sessile.
CALYX	PERIANTHIUM monophyllum, subcampanulatum, ad lentem pubescens, pallidum, quinquefidum, laciniis ovatis, acutis, demum reflexis, <i>fig.</i> 1.	CALYX	a PERIANTHIUM of one leaf, somewhat bell-shaped, if magnified slightly downy, of a pale colour, divided into five segments, which are ovate, pointed, and finally reflexed, <i>fig.</i> 1.
COROLLA	PETALA quinque, albida, oblongo-rotundata, unguiculata, patentia, calyce duplo longiora, <i>fig.</i> 2.	COROLLA	five whitish PETALS, oblong, roundish, clawed, spreading twice the length of the calyx, <i>fig.</i> 2.
STAMINA	FILAMENTA viginti plura, filiformia, flavescencia, longitudine corollæ, calyci inserta. ANTHERÆ subrotundæ, flavescences, <i>fig.</i> 3.	STAMINA	twenty FILAMENTS or more, filiform, yellowish, the length of the corolla, inserted into the calyx. ANTHERÆ nearly round, and yellowish, <i>fig.</i> 3.
PISTILLUM	GERMINA quinque, sex, five plura ; STYLI totidem, superne incrassati, reflexa ; STIGMATA capitata, <i>fig.</i> 4.	PISTILLUM	GERMINA five, six, or more ; STYLES as many, thickened above and turned back ; STIGMATA forming little heads, <i>fig.</i> 4.
PERICARPIUM	CAPSULÆ plurimæ, spiraliter contortæ, <i>fig.</i> 5.	SEED-VESSEL	CAPSULES several, twisted together spirally, <i>fig.</i> 5.

The Meadow-Sweet has been justly celebrated for its fragrance and beauty, the agreeable odour which the whole plant, but more particularly the flowers, diffuse, has recommended it for the purpose of scenting rooms, and purifying the air, by strewing it on the floors ; it is said not to affect the head like other perfumes : the leaves also, like those of Burnet, impart an agreeable flavour to wine and other liquors.

As an ornamental plant, it has long held a place in our gardens, not only in its wild state, but with variegated leaves and double flowers.

It puts in its claim also for medicinal virtues, which, however, do not appear to be of the most powerful kind ; the leaves are recommended as mildly astringent, and useful in Dysenteries ; the flowers are said to be antispasmodic and diuretic : their pleasant smell, in which their virtue resides, is soon dissipated by keeping.

It grows plentifully in wet meadows and by the sides of ponds and ditches, flowering from July to September.

Horses and kine are said to refuse it, sheep to eat it, and goats to be particularly fond of it ; as it forms a great part of the pasturage in some meadows, it is of consequence for the husbandman more clearly to ascertain whether horses and cows refuse the young foliage, and whether they reject the whole plant when made into hay.

We have frequently observed small red tubercles on the leaves, which we have supposed to be occasioned by some species of Cynips.





*Spiraea Ulmaria.*









*Tormentilla officinalis.*



# TORMENTILLA OFFICINALIS. TORMENTIL.

TORMENTILLA *Lin. Gen. Pl.* ICOSANDRIA POLYGYNIA.

*Cal.* 8-fidus. *Petala* 4. *Sem.* subrotunda, nuda, receptaculo parvo exsucco affixa.

*Raii Syn. Gen.* 15. HERBÆ SEMINE NUDDO POLYSPERMÆ.

TORMENTILLA *officinalis.*

TORMENTILLA *erecta* caule erectiusculo, foliis sessilibus. *Lin. Syst. Vegetab.* p. 399. *Sp. Pl.* p. 716. *Fl. Suec.* n. 459.

FRAGRARIA tetrapetala, foliis caulinis sessilibus, quinatis. *Haller. hist.* n. 1117.

POTENTILLA *Tormentilla erecta.* *Scopoli Fl. Carn.* n. 620.

TORMENTILLA *sylvestris.* *Bauh. Pin.* 326.

TORMENTILLA *Ger. emac.* 992. *vulgaris Parkinsf.* 394.

*Raii Syn.* p. 257. *Tormentil, Septfoil.* *Hudson Fl. Angl. ed.* 2. p. 225. *Lightfoot Fl. Scot.* p. 272.

RADIX crassa, tuberosa, variae magnitudinis et formæ, extus fusca, intus rubicunda.

CAULES plures ex una radice, spithamæ et ultra, procumbentes, teretes, filiformes, pilosi, inferne simplices, et sæpe nudi, superne ramosi.

FOLIA alterna, sessilia, amplexicauli-perfoliata, multifida, utrinque parce pubescentia, supra saturate viridia, laciniis obverse lanceolatis, obtusis, superne latioribus, incis, patentibus, tribus exterioribus duplo longioribus.

PEDUNCULI axillares, filiformes, elongati, uniflori, nudi, pilosi.

FLORES primo cernui, postea erecti.

CALYX: PERIANTHIUM monophyllum, octopartitum, pubescens, laciniis ovatis, acutis, patentibus, alternis minoribus, *fig. 1.*

COROLLA: PETALA quatuor, lutea, obcordata, plana, patentia, unguibus calyci inserta, *fig. 2.*

STAMINA: FILAMENTA sedecim circiter, calyci inserta, corolla breviora; ANTHÆ simplices, luteæ, *fig. 3.*

PISTILLUM: GERMINA octo circiter, glabra, subrotunda, in capitulum conniventia, *fig. 4.*

STYLI filiformes, longitudine staminum, lateri germinis inserti; STIGMATA obtusa, *fig. 5. auct.*

RECEPTACULUM villosum.

SEMINA tot quot germina, oblongiuscula, obtusa, glabra, nuda, lutescentia, *fig. 6.*

ROOT thick, and tuberos, various both in size and shape, externally brown, internally red.

STALKS several from one root, a span or more in length, procumbent, round, filiform, hairy, below simple and often naked, above branched.

LEAVES alternate, sessile, nearly perfoliate, on each side slightly pubescent, above of a deep green colour, divided into many segments, the segments inversely lanceolate, obtuse, broadest above, serrated on the edges, and spreading, the three outermost twice as long as the others.

FLOWER-STALKS axillary, filiform, long, supporting one flower, naked, and hairy.

FLOWERS at first drooping, afterwards upright.

CALYX: a PERIANTHIUM of one leaf, deeply divided into eight segments, downy, the segments ovate, pointed, alternately least, *fig. 1.*

COROLLA: four PETALS, of a yellow colour, inversely heart-shaped, flat, spreading, inserted by the claws into the calyx, *fig. 2.*

STAMINA: about sixteen FILAMENTS, inserted into the calyx, shorter than the corolla; ANTHÆ simple and yellow, *fig. 3.*

PISTILLUM: GERMINA about eight, smooth, roundish, forming a little head, *fig. 4.* STYLES filiform, the length of the stamina, inserted into the side of the germen; STIGMA blunt, *fig. 5. magnified.*

RECEPTACLE villous.

SEEDS as numerous as the germina, rather oblong, obtuse, smooth, naked, and yellowish, *fig. 6.*

Tormentil is a plant of considerable importance in rural œconomy and medicine.

The roots are used in most of the Western Isles, and in the *Orkneys*, for tanning of leather; in which intention they are proved, by some late experiments, to be superior even to the oak-bark. They are first of all boiled in water, and the leather afterwards steeped in the cold liquor. In the islands of *Tirey* and *Col* the inhabitants have destroyed so much ground by digging them up, that they have lately been prohibited the use of them. *Lightfoot Fl. Scot.* p. 272.

Considered medicinally, Tormentil root is a strong and almost flavourless astringent, and gives out its astringency both to water and rectified spirit, most perfectly to the latter: the watery decoction, of a transparent brownish-red colour whilst hot, becomes turbid in cooling like that of the Peruvian bark, and deposits a portion of resinous matter: the spirituous tincture, of a brighter reddish colour, retains its pellucidity. The extracts obtained by inspissation, are intensely styptic, the spirituous most so. It is generally given in decoction: an ounce and a half of the powdered root may be boiled in three pints of water to a quart, adding, towards the end of the boiling, a drachm of cinnamon: of the strained liquor, sweetened with an ounce of any agreeable syrup, two ounces or more may be taken four or five times a day.

We are by no means fond of changing the Linnæan names, but on the present occasion we are, in some degree, compelled to it, from the great inconvenience we have experienced in calling a plant *erecta*, which with us is always procumbent, unless drawn up by surrounding herbage, or by growing in woods, where it more rarely occurs.

Its most usual place of growth is on heaths, moors, and mountainous pastures, where it is extremely common, and flowers from June to September.

LINNÆUS appears to have been induced to call this plant *erecta*, by way of contrast to the *Tormentilla reptans*, which he enumerates as a species: such a plant is certainly figured and described by several English Botanists, but we never yet saw any species of Tormentil with a creeping stalk; we have observed the common Tormentil vary much in size, in the length of its branches, and in the number and size of its petals, we have noticed the leaves sometimes to have foot-stalks, and we have for several years cultivated a large variety of this plant, which from one root has extended its stalks nearly a yard every way, and though they have lain close to the ground, on a moist soil, we never could perceive the least tendency in them to throw out roots at the joints: hence we are induced to conclude, that no other than one species of Tormentil exists.

As the Tormentil varies with five petals, so the *Potentilla reptans* has sometimes only four, and, perhaps, a starved specimen of the latter, originally gave rise to the *Tormentilla reptans*.

This occasional variation in the number of the petals, &c. at once destroys the generic character of the Tormentil: for, add one-fifth part more of the fructification to those which already exist in the Tormentilla, and you make a Potentilla of it; or, *vice versa*, take one fifth-part of the fructification from a Potentilla, and it becomes a Tormentilla; they ought surely then to form but one genus: SCOPOLI unites them, facetiously remarking, *Monoculum Hominem ab humano genere quis separabit*: HALLER joins the Potentilla, Tormentilla, Fragraria, and Sibbaldia, in one family.







# SPARGANIUM RAMOSUM. GREAT BUR-REED.

SPARGANIUM *Lin. Gen. Pl. MONOECIA TRIANDRIA.*

MASC. Amentum subrotundum. *Cal. 3-phyllus. Cor. o.*

FEM. Amentum subrotundum. *Cal. 3-phyllus. Cor. o. Stigma 2-fidum. Drupa exsucca, 1-sperma.*

*Raii Syn. GRAMINIFOLIAE NON CULMIFERAE SINGULARES ET SUI GENERIS.*

SPARGANIUM *ramosum* foliis basi triangularibus, lateribus concavis, pedunculis ramosis.

SPARGANIUM *erectum* foliis erectis triquetris. *Lin. Syst. Vegetab. p. 702. Sp. Pl. p. 1378. Fl. Suec. n. 831.*

SPARGANIUM caule foliisque erectis. *Haller hist. 1303.*

SPARGANIUM *erectum. Scopoli Fl. Carn. n. 1146.*

SPARGANIUM *ramosum. Bauh. Pin. 15. Ger. emac. 45. Parkins. 1205. Raii Syn. 437. Branched Bur-Reed. Hudson Fl. Angl. ed. 2. p. 401. Lightfoot Fl. Scot. p. 539.*

RADIX	perennis, repens, radiculis fibrillis numerosissimis instructis.	ROOT	perennial, and creeping, the small roots furnished with very numerous fibres.
CULMUS	bipedalis, tripedalis, et ultra, erectus, teres, glaber, foliosus, foliis tribus circiter, præter bractæas.	STALK	two, three feet high, or more, upright, round, smooth, leafy, leaves about three in number besides the floral leaves.
FOLIA	radicalia erecta, saturate viridia, culmo duplo fere longiora, basi vaginantia, equitantia, paulo supra basin fere ad apicem usque triquetra, latere interiore planiusculo, duobus exterioribus concavis.	LEAVES	next the root upright, of a deep green colour, almost twice the length of the stem, sheathy at bottom and riding one on the other, from the base nearly, almost to the top three-cornered, the inner side almost flat, the two outermost hollow.
BRACTEÆ	quatuor circiter, foliis caulinis subsimiles, inferioribus longioribus.	FLORAL-LEAVES	about four in number, somewhat like the leaves of the stalk, the lowermost longest.
FLORES	monoici, in capitula collecti, spicati.	FLOWERS	monocious, formed into little heads, and growing in spikes.
PEDUNCULI	axillares, alterni, flexuosi, multiflori, capitulis sessilibus, inferioribus femineis, duobus aut tribus, superioribus masculis pluribus; pedunculi supremi flores masculos tantum gerunt.	FLOWER-STALKS	growing from the bosoms of the leaves, alternate, crooked, supporting many flowers, the little heads sessile, the lowermost ones female, two or three in number, the uppermost ones male, and more numerous; the uppermost flower-stalks bear only male flowers.
CALYX	Flor. Masc. Amentum commune, subrotundum, undique densissime imbricatum, constans Perianthiis propriis plerumque triphyllis, basi linearibus, apice ovato-acutis, deciduis; fig. 1. auct.	CALYX	of the Male Flowers. One common roundish Catkin, closely imbricated on every side, and composed of numerous individual Perianthia, consisting for the most part of three leaves, linear at the base, ovate and pointed at top, and deciduous, fig. 1. magnified.
COROLLA	nulla.	COROLLA	none.
STAMINA	FILAMENTA plerumque tria, capillaria, longitudine calycis; ANTHERÆ oblongæ, flavæ, fig. 2.	STAMINA	usually three capillary FILAMENTS, the length of the calyx; ANTHERÆ oblong, yellow, fig. 2.
CALYX	Flor. Fem. Perianthium ut in masculo, at basi latior, magis concavus, nec deciduus, fig. 3.	CALYX	of the Female Flowers. A Perianthium as in the males, but broader at the base, more concave, and not deciduous, fig. 3.
PISTILLUM	GERMEN oblongo-ovatum, angulatum, desinens in STYLUM brevem subulatum; STIGMA oblongum ad unum latus villosum, fig. 4.	PISTILLUM	GERMEN oblongo-ovate, angular, terminating in a short tapering STYLE; STIGMA oblong, villous on one side, fig. 4.
PERICARPIUM	DRUPA exsucca, turbinata cum acumine, inferne angulata, fig. 5.	SEED-VESSEL	a juiceless DRUPE, turban-shaped and pointed; angular below, fig. 5.
SEMEN	NUCES duæ, ossæ, oblongo-ovatae, fig. 6.	SEEDS	two bony NUTS, of an oblong ovate shape, fig. 6.

The *Sparganium ramosum* having a very strong creeping root, is one of those plants which very soon fill up a ditch or piece of water, if suffered to remain unmolested; we have not seen it more plentiful any where than in the Isle of Dogs, the ditches of which are full of it.

We know of no use to which it is applicable.

The stalk is liable to be eaten by some kind of larva whose history we have not yet discovered; the leaves by the larva of a *Tenthredo* unknown to us, as well as by the larva of the *Phalæna Festuæ*—two of which in their Chrysalis state, we this year, August 24. 1785, found in a web under the leaves of the plant, in a pond near Malden in Essex; and on the leaves of the same plant, at the same time and place, Dr. GOODENOUGH and myself were so fortunate as to find two specimens of that rare insect the *Sphinx fissipes* Linnæi.

The male flowers vary much in the number of their stamina, and both sorts in the number of the leaves of the calyx.

In treating of the *Typha latifolia*, we promised, when we gave a figure of this plant, to inform our readers whether its seeds vegetated: we have since then had an opportunity of observing one of its heads, as it lay in a wet situation, assume a green colour, which, on a careful examination, it was found to owe to the seeds having just begun to vegetate.





*Sarganium racemosum.*









*Sparganium simplex.*

J. Sowerby del. et. sculp.



# SPARGANIUM SIMPLEX. SMALL BUR-REED.

SPARGANIUM *Lin. Gen. Pl.* MONOECIA TRIANDRIA.

MASC. Amentum subrotundum. *Cal.* 3-phyllus, *Cor.* 6.

FÆM. Amentum subrotundum. *Cal.* 3-phyllus. *Cor.* 6. *Stigma* 2-fidum. *Drupe* ex succa, 1-sperma.

*Raii Syn.* GRAMINIFOLIÆ NON CULMIFERÆ SINGULARES ET SUI GENERIS:

SPARGANIUM *Simplex* foliis basi triangularibus, lateribus planis, pedunculis simplicibus.

SPARGANIUM *simplex* foliis ensiformibus planis, caule simplici, *Hudson. Fl. Angl. p.* 401.

SPARGANIUM *natans* foliis decumbentibus planis. *Lin. Syst. Vegetab. p.* 702. *Sp. Pl.* 1378.

SPARGANIUM *non ramosum.* *Bauh. Pin.* 15.

SPARGANIUM *non ramosum.* *Parkinsf.* 1205. *Raii Syn. p.* 437. *n.* 2, 3. Bur-reed not branched.

LINNÆUS makes only two species of the genus *Sparganium*, one of which he calls *erectum*, and the other *natans*; the former he describes as very common in ditches and fish-ponds, the latter peculiar to lakes and deep waters.

Older Botanists describe three species, the *ramosum*, the *non ramosum*, and the *minimum*; the *non ramosum* LINNÆUS considers as a variety of his *erectum*; it is this plant which we here give a figure of, from a thorough conviction of its being a species perfectly distinct from the common one, whether it differs specifically from the *natans* we do not take on us at present to determine: Mr. LIGHTFOOT, who has seen the *natans* in many places in Scotland, pronounces it a species; Mr. HUDSON, on the contrary, considers it as a variety of the present plant;—certain it is, soil and situation will occasion an amazing difference in the appearance of plants; we need only look at the *Polygonum amphibium* to be convinced of this; when it grows on land its leaves are all erect, in the water they float; the leaves of the *Festuca fluitans* float in the spring; as the summer advances they grow upright; possibly the depth and consequent coldness of the water, with other circumstances, may occasion the present plant to assume the floating appearance which authors describe:—culture, perhaps, can only decide this matter:—let the experiment turn out as it may, as there are found to be two species with erect leaves, it became necessary to alter LINNÆUS's names, which Mr. HUDSON having judiciously done we have adopted them.

We shall now point out the several characters in which the present plant has appeared to us to differ from the *ramosum*.

It differs in its place of growth,  
In its size,  
In the colour and shape of its leaves,  
In the branchedness of its flower-stalks, and  
In the colour of the male and female flowers.

The common Bur-Reed grows in almost every ditch in the neighbourhood of London, the small one on the contrary is found only in particular spots, particularly in such pools of water as one meets with on heaths, and which are frequently made by the digging of gravel, along with the *Myriophyllum*, the *Alisma*, *Danthonium*, *Sison mundatum*, *Scirpus fluitans*, &c. It particularly abounds on Battersea Common, just before you enter Wandsworth on the left-hand side from London, and flowers during the whole of the summer.

It is seldom found more than one fourth part so high as the *Sparganium ramosum*.

The leaves incline much more to a yellow colour, and instead of being hollow on two sides near the base, as those of the *ramosum* are, they are flat, so that a transverse section forms a triangle with nearly plain sides; we look on this as its best specific character. Such as have opportunities of observing the *natans*, will do well to observe whether its leaves are similar near the base.

Each flower-stalk supports only a single globule of male or female flowers; the lowermost which support the female flowers vary considerably in length, being sometimes more than an inch long, and at other times sessile.

The flowers before they blow look yellow, and have none of that blackness about them, so conspicuous in those of the *ramosum*; they are also larger in proportion.







# ACHILLEA PTARMICA. SNEEZEWORT.

ACHILLEA *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

*Recept.* paleaceum. *Pappus* nullus. *Cal.* ovatus, imbricatus. *Flo-*  
*culi* radii circiter 4.

*Raii Syn. Gen.* 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO  
DESTITUTIS *corymbiferæ* DICTÆ.

ACHILLEA *Ptarmica* foliis lanceolatis acuminatis argute ferratis. *Lin. Syst. Vegetab.* p. 647. *Sp.*  
*Pl.* p. 1266. *Fl. Suecic.* n. 771.

ACHILLEA foliis linearibus lanceolatis acutissime ferratis. *Haller hist.* 117.

DRACUNCULUS ferrato folio pratensis. *Bauh.* p. 198.

PTARMICA *Ger. emac.* 606. *Park.* 859. *Raii Syn.* p. 183. Sneezewort, Bastard-Pellitory,  
Goose-Tongue. *Hudson, Fl. Angl.* 375. *Lightfoot, Fl. Scot.* p. 495.

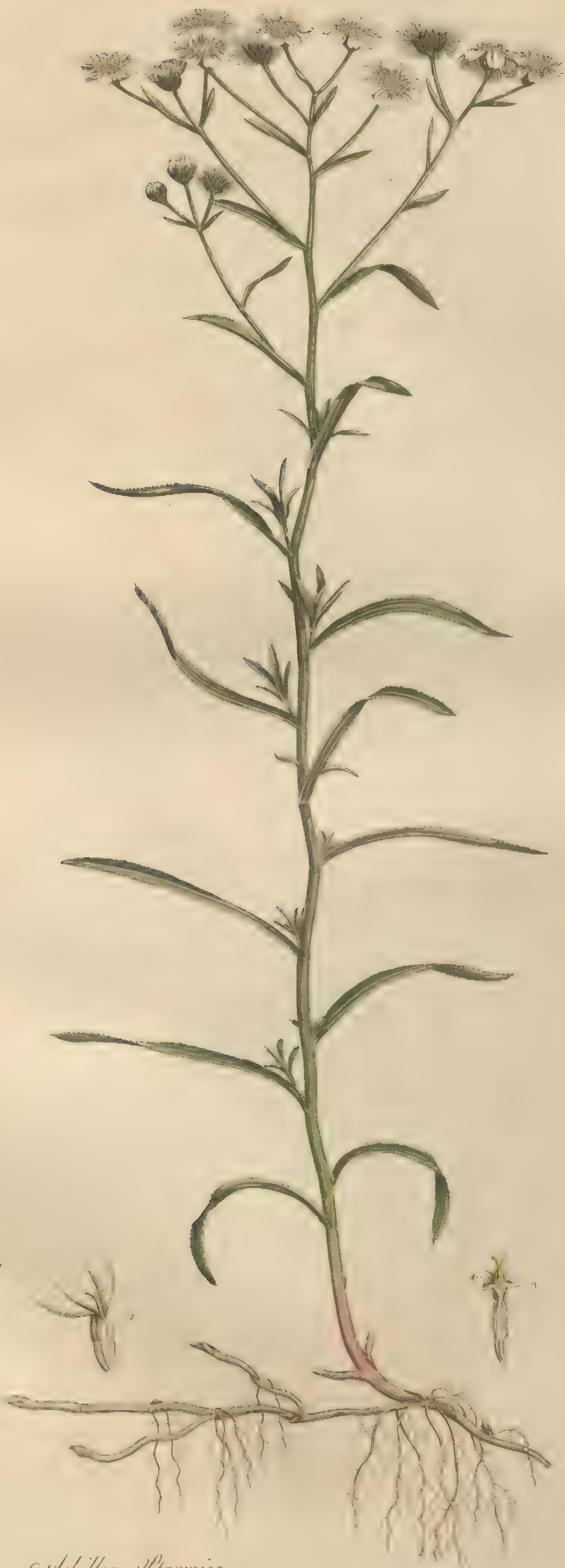
RADIX	perennis, repens, alba, subgeniculata, fibris majusculis et longissimis donata, e geniculis exeuntibus, sapore acri et fervido.	ROOT	perennial, creeping, white, somewhat jointed, furnished with large and very long fibres which proceed from the joints, of a hot acrid taste.
CAULIS	pedalis ad tripedalem, erectus, plerumque simplex, rigidulus, inferne teres, glaber, superne subangulatus, villosus, paniculatim ramosus.	STALK	from one to three feet high, upright, generally simple, somewhat rigid, below round and smooth, above slightly angular, villous, and branching out into a kind of panicle.
FOLIA	numerosa, alterna, sessilia, amplexicaulia, linearia, acuta, bi vel tripollicaria, utrinque glabra, lucidiuscula, saturate viridia, margine retrorsum scabra, subcrenata; crenis minutim ferrulato aculeatis; subtus triner- via; nervis longitudinalibus, quorum inter- medius est costa.	LEAVES	numerous, alternate, sessile, embracing the stalk, linear, pointed, two or three inches long, smooth on both sides, and somewhat shining, of a deep-green colour, the edge rough, if the finger be drawn along it, from the top to the base, somewhat crenated, the notches forming a sharp prickly kind of saw, underneath having two longitudinal ribs, be- side the midrib.
CORYMBUS	terminalis, compositus, erectus, villo- sus, foliosus.	CORYMBUS	terminal, compound, upright, villous, and leafy.
BRACTEÆ	lineares in pedunculis.	FLORAL-LEAVES	linear on the flower-stalks.
CALYX	<i>communis</i> hæmisphericus, subtomentosus, imbricatus, squamis ovato-lanceolatis, erectis, subcarinatis, margine rufis, subciliatis.	CALYX	<i>common</i> to all the florets, hemispherical, somewhat woolly; the scales composing it placed one over another, of an oval-pointed shape, upright, somewhat keeled, the mar- gin reddish, and slightly edged with hairs.
COROLLA	composita, radiata, <i>flores femineæ</i> in ra- dio, ligulatæ, numero 8-10, lamina ovata, alba, patens, bifurca, apice obtusa, triden- tata, <i>fig. 1.</i> <i>tubus</i> marginatus, brevis, longi- tudine germinis, apice rubellus, <i>fig. 2.</i> <i>flores hermaphroditi</i> in disco numerosi, <i>tubus</i> subcylindraceus, marginatus, virescens; <i>lim-</i> <i>bis</i> quinquefidus, albus, tubo brevior, laciniis subrevolutis, <i>fig. 3.</i>	COROLLA	compound and radiate, <i>female flowers</i> in the circumference, tubular at bottom and spreading at top, from 8 to 10 in number, the <i>lamina</i> ovate, white, spreading, with two grooves, blunt at top, with three small blunt teeth, <i>fig. 1.</i> the tube two-edged, short; the length of the germen, and reddish at top, <i>fig. 2.</i> <i>hermaphrodite</i> flowers numerous in the centre, the <i>tube</i> nearly cylindrical, two- edged, greenish, the <i>limb</i> white, divided in- to five segments, shorter than the tube, the segments somewhat rolled back, <i>fig. 3.</i>
STAMINA	in hermaphroditis; FILAMENTA quin- que, capillaria; ANTHERÆ flavæ, in tubum coalitæ, <i>fig. 4.</i>	STAMINA	in the hermaphrodite flowers; FILA- MENTS five, very fine; ANTHERÆ yellow, uniting in a tube, <i>fig. 4.</i>
PISTILLUM	in femineis et hermaphroditis: GER- MEN compressum, turbinatum; STYLUS fili- formis; STIGMATA duo, revoluta, apicibus obtusis, <i>fig. 5.</i>	PISTILLUM	in the female and hermaphrodite flowers; GERMEN flattened, broadest at top; STYLE thread-shaped; STIGMATA two, rol- led back, the ends blunt, <i>fig. 5.</i>
SEMINA	plurima, nuda, utrinque subalata, nitida, apice truncata.	SEEDS	numerous, naked, having a kind of wing on each side, shining, and cut off as it were at top.
RECEPTACULUM	paleaceum, squamis membra- naceis, lineari-lanceolatis, obtusis, vix lon- gitudine florum.	RECEPTACLE	chaffy, the scales membranous, of a shape betwixt linear and lanceolate, blunt, scarcely the length of the flowers.

The dried powder of this plant snuffed up the nostrils provokes sneezing, hence it has acquired its name of *Sneezewort*; chewed in the mouth, like Pellitory of Spain, it promotes the flow of the saliva, and is found serviceable in the cure of the tooth-ach: these appear to be the only medicinal purposes to which it is applied.

In its double state, it has long been an ornament in gardens, and distinguished by the name of *Batchelors Buttons*; having a creeping and very increasing root, it requires more care to destroy than to increase it.

It is a common plant in wet pastures and on heaths, and may be found in plenty by the sides of the ditches in Battersea-Meadows, where it flowers in July and August.





*Achillea Marmica.*









*Bromus giganteus.*

J. Sowerby del. et sculp.



# BROMUS GIGANTEUS. TALL BROME GRASS.

BROMUS *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

*Cal.* 2-valvis. *Spicula* oblonga, teres, disticha: arista infra apicem.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

BROMUS *giganteus* panicula nutante, spiculis quadrifloris: aristis brevioribus. *Lin. Syst. Vegetab.* p. 103. *Spec. Plant.* p. 114. *Fl. Succ.* n. 34.

BROMUS *giganteus* panicula ramosa nutante, ramis binatis, spiculis subquadrifloris arista brevioribus. *Hudson Fl. Angl.* p. 51.

BROMUS glaber, locustis quadrifloris nutantibus, aristis longissimis. *Haller. hist.* n. 1510.

BROMUS *giganteus*. *Scopoli Fl. Carn.* n. 116. VAR. 1. *glabra et minor*.

GRAMEN bromoides aquaticum latifolium, panicula sparsa tenuissime aristata. *Scheuchz. Agrost.* p. 264. t. 5. fig. 17.

GRAMEN sylvaticum glabrum, panicula recurva. *Vaill. Paris*, p. 93.

GRAMEN avenaceum glabrum, panicula e spicis raris strigosis composita, aristis tenuissimis. *Raii hist.* 1909. *Syn.* p. 415. *Lightfoot Fl. Scot.* p. 104.

RADIX perennis, fibrosa.

CULMUS tripedalis et ultra, erectus, lævis, geniculis plerumque purpureis.

FOLIA semunciam lata, læte viridia, lævia, inferne nitida, basi appendiculis ex fusco purpureis utrinque, caulem amplexantibus instructa, vagina inferne scabriuscula, minime pilosa, superne glabra, membrana brevissima.

PANICULA ampla, pedalis etiam, sparsa, ramis plerumque binatis, nutantibus, secundis, scabriusculis.

SPICULÆ ovato-lanceolatae, subquinqüiflorae, semunciales, plerumque virides, læves, aristatae: Aristæ albæ, spiculis paulo longiores, flexuosæ, scabræ.

CALYX: GLUMA bivalvis, valvulis inæqualibus, acuminatis, viridibus, marginibus albidis, majore lineis tribus, minore unica subdiaphana notata, fig. 1.

COROLLA: GLUMA bivalvis, valvulis subæqualibus, viridibus, lævibus, margine albis, exteriore majore, concava, obsolete trinervis, aristata, aristâ glumâ longiore paulo infra apicem exsertâ, interiore minore, planiuscula, albida, fig. 2, 3.

NECTARIUM: GLUMULÆ duæ, acuminate, ad basin germinis, fig. 4.

STAMINA: FILAMENTA tria, capillaria, alba; ANTHERÆ flavæ, bifurcæ, fig. 5.

PISTILLUM: GERMEN obovatum, viride, nitidum; STYLII duo, patentes, ad basin usque ramosi, fig. 6. auct. fig. 7.

SEMEN oblongum, ex nigro purpurascens, intra glumas adhærentes, inclusum, fig. 8, 9.

ROOT perennial and fibrous.

STALK three feet or more in height, upright, smooth, the joints for the most part purple.

LEAVES half an inch broad, of a bright-green colour, smooth, shining underneath, furnished at the base on each side with two purplish-brown appendages, which embrace the stalk, sheath below a little rough to the touch, but not hairy, above smooth, the membrane very short.

PANICLE large, even a foot long, loose, branches generally growing in pairs, all one way, drooping, and roughish.

SPICULÆ ovato-lanceolate, containing about five flowers, half an inch in length, for the most part green, smooth, and bearded: Beards white, a little longer than the spiculæ, crooked, and rough.

CALYX: a GLUME of two valves, the valves unequal, pointed, green, with white edges, the large valve marked with three, and the small one with one somewhat transparent line, fig. 1.

COROLLA: a GLUME of two valves, the valves nearly equal, green, smooth, the edges white, the outer one largest hollow, faintly three-rib'd, and bearded, the beard longer than the glume, and proceeding from a little below the point, the interior one least, somewhat flat and whitish, fig. 2, 3.

NECTARY: two small pointed GLUMES at the base of the germen, fig. 4.

STAMINA: three capillary, white FILAMENTS; ANTHERÆ yellow and forked, fig. 5.

PISTILLUM: GERMEN inversely ovate, green and shining; STYLES two, spreading and branched quite to the bottom, fig. 6. magnified, fig. 7.

SEED oblong, of a blackish-purple colour, enclosed within the glumes which adhere to it, fig. 8, 9.

There is only one grass for which this species of *Bromus* is liable to be mistaken, and that is the *Bromus hirsutus* already figured, they are both large grasses, and grow in similar situations, indeed frequently together: they have been confounded by SCOPOLI, who makes the *hirsutus* a variety of the *giganteus*; but the least attention would have taught him, that they were materially different.

The sheath of the lower leaves in the *hirsutus* is covered with long stiff hairs, which are wanting in the *giganteus*; the leaves of the *giganteus* are glossy on the under side, and those of the stalk, near their extremities, appear as if a black ligature had been tied round them; but there is a character almost peculiar to this grass, the base of the leaf is terminated by two small appendages, of a reddish-brown colour, which usually embrace the stalk, and will never fail to distinguish it from the *hirsutus*: the spiculæ also, if no other distinguishing character were present, would be all-sufficient, being shorter by almost one half, containing fewer flowers, and having aristæ or awns longer in proportion to the spiculæ and more crooked: we may add another character which we have discovered from cultivation, the *giganteus* is a perennial, whereas the *hirsutus* is only an annual or biennial, a circumstance which we were not sufficiently apprized of when we described that plant.

This grass is frequent enough in the neighbourhood of London, in woods, and under hedges, especially such as are accompanied by a wet ditch, nor is it uncommon by the sides of the Thames; the situation which it affects with us, is more agreeable to the name given it by SCHEUCHZER, than to the account delivered by LINNÆUS in his *Species plantarum*, where he says, *habitat in Europæ sylvis siccis*: we very rarely or never find it in meadows; hence, though a productive grass, there seems not much probability of its becoming a good grass for meadows or pastures.

It flowers from July to September.







# ORCHIS LATIFOLIA. MARSH ORCHIS.

ORCHIS *Lin. Gen. Pl.* GYNANDRIA DIANDRIA.

*Nectarium* corniforme pone florem.

*Raii Syn.* HERBÆ BULBOSIS AFFINES.

ORCHIS *latifolia* bulbis subpalmatis rectis, nectarii cornu conico: labio trilobo lateralibus reflexo, bracteis flore longioribus. *Lin. Syst. Vegetab. ed. 14. p. 810. Sp. Pl. 1334. Fl. Suec. n. 801.*

ORCHIS radicibus palmatis, caule fistuloso, bractæis maximis, labello trifido ferrato: medio segmento obtuso. *Haller. hist. 1279. t. 32.*

ORCHIS *latifolia. Scopoli Fl. Carn. n. 1118.*

ORCHIS palmata pratensis latifolia, longis calcaribus. *Bauh. Pin. 85.*

PALMA CHRISTI mas. *Ger. emac. 220.*

ORCHIS palmata mas f. Palma Christi mas. *Park. 1356.*

ORCHIS palmata non maculata. *I. B. II. 774. Raii Syn. p. 380. The Male-Handed Orchis, or Male Satyrion Royal. Lightfoot Fl. Scot. p. 516. Hudson Fl. Angl. ed. 2. p. 385.*

RADIX bulbosa, bulbis palmatis.

CAULIS plerumque pedalis aut sesquipedalis; ad apicem fere foliosus, crassus, fistulosus, superne subangulosus, glaber.

FOLIA e flavo viridia, suberecta, glabra, nobiscum immaculata, plerisque hujus generis et longiora et latiora.

FLORES nobiscum sæpius rosei seu carnei, sæpe purpurei, raro albi, spicati, conferti.

SPICA subovata, foliosa.

BRACTEÆ magnæ, acuminatæ, coloratæ, fig. 1.

COROLLA: petala quinque, duo exteriora ovato-lanceolata, suberecta, parum maculata, fig. 3. interiora conniventia, fig. 4. Calcar germen brevius, conicum, incurvum, obtusum.

NECTARIUM obsolete trilobum lineolis et punctis saturationibus pulchre variegatum, lateribus per ætatem reflexis, fig. 2.

STAMINA: FILAMENTA duo; ANTHERÆ subrotundo-clavatæ, e luteo-virescentes, fig. 5. auct.

ROOT bulbous, bulbs palmated, or handed.

STALK usually a foot or a foot and a half high, leafy almost to the top, thick, hollow, somewhat angular above, perfectly smooth.

LEAVES of a yellowish-green colour, nearly upright, smooth, spotless with us, and both longer and broader than most of this tribe.

FLOWERS with us for the most part rose or flesh-coloured, often purple, rarely white; growing in a spike thickly together.

SPIKE somewhat ovate, and leafy.

FLORAL-LEAVES large, long-pointed, and coloured, fig. 1.

COROLLA pentapetalous, the two outermost ovato-lanceolate, nearly upright, spotted a little, fig. 3. the innermost closing together, fig. 4. the *Spur* shorter than the germen, conical, incurved, and blunt.

NECTARY faintly three-lob'd, beautifully variegated with small lines and dots of a deeper colour, the sides reflexed with age, fig. 2.

STAMINA: two FILAMENTS; ANTHERÆ roundish, club-shaped, of a yellowish-green colour, fig. 5. magnified.

The *Orchis Latifolia* is particularly distinguished from the others, by growing (with us at least) only in very wet meadows, where *Valeriana dioica*, *Menyanthes trifoliata*, and *Lychnis Flos Cuculi*, usually abound, and from which circumstance, we have called it *Marsh Orchis*, by its spotless foliage, which is of a yellowish-green colour, and by the uncommon length of the floral leaves, which give the spike a very leafy appearance.

It comes nearest to the *maculata*: *HALLER* represents the leaves somewhat spotted, and *LINNÆUS* describes them *parum maculata*; we do not find them so in the neighbourhood of London; but probably they may be so in other places: should that be the case, these two plants will approach still nearer to each other.

With us, pink is the most predominant colour of its blossoms, though they are frequently found purple, and sometimes white; even in the same meadow.

We need go no further than Battersea-Meadows to find this plant in tolerable abundance; at a greater distance from town it will be found much more plentifully; it flowers towards the latter end of May.

It is more easily cultivated than many of the same genus, and if planted in a moist border, in a mixture of bog earth and loam, will grow to a much greater size than is represented on the plate.





*Orchis latifolia*









*Chrysanthemum Leucanthemum.*

*Wormley del. ex. fidep.*



# CHRYSANTHEMUM LEUCANTHEMUM. COMMON OX-EYE, or GREATER DAISY.

CHRYSANTHEMUM *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

*Recept. nudum. Pappus marginatus. Cal. hemisphaericus, imbricatus, squamis marginalibus membranaceis.*

*Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.*

CHRYSANTHEMUM *Leucanthemum foliis amplexicaulibus oblongis; superne serratis; inferne dentatis. Lin. Syst. Vegetab. ed. 14. p. 772. Sp. Pl. p. 1251. Fl. Suec. n. 763.*

MATRICARIA *foliis radicalibus petiolatis, ovatis, crenatis, caulinis amplexicaulibus dentatis. Haller hist. 98.*

MATRICARIA *Leucanthemum. Scopoli Fl. Carn. n. 1041.*

BELLIS *sylvestris caule folioso major. Bauh. Pin. 261.*

LEUCANTHEMUM *vulgare. Tourn. 492.*

BELLIS *major. Ger. emac. 634.*

BELLIS *major vulgaris five sylvestris. Parkins. 528. Raii Syn. p. 184. The Greater Daisy, or Ox-Eye. Lightfoot Fl. Scot. p. 488. Hudson. Fl. Angl. ed. 2. p. 371.*

RADIX perennis, fusca, subrepens, fibrosa.	ROOT perennial, brown, somewhat creeping, and fibrous.
CAULIS pedalis, sesquipedalis et ultra, erectus, rigidus, angulosus, inferne purpurascens, hirsutus, superne nudus, simplex, subinde ramosus.	STALK a foot or a foot and a half high or more, upright, rigid, angular, below purplish and hairy, above naked, simple, sometimes branched.
FOLIA radicalia a caulinis diversissima, petiolis longis infidentia, obovata, vix pubescentia, incisoferrata, caulina alterna, sessilia, amplexicaulia, linearia, extrorsum latiora, remote denticulata, denticulis ad basin crebrioribus et longioribus.	LEAVES next the root very different from those of the stalk, standing on long footstalks, obovate, scarcely downy, deeply sawed, those of the stalk alternate, sessile, stem-clasping, linear, outwardly broadest, distantly toothed, teeth at the base more crowded and longest.
FLORES pedunculati, terminales, solitarii, magni, speciosi.	FLOWERS standing on footstalks, terminal, single, large, and showy.
PEDUNCULI striati, subincrassati.	FLOWER-STALKS finely grooved, and somewhat thickened.
CALYX communis hemisphaerico-planus, arcte imbricatus, squamis exterioribus oblongo-ovatis, obtusiusculis, margine membranaceis, fuscis, interioribus lanceolatis, acutis.	CALYX common to all the florets, like a hemisphere flattened, closely imbricated, exterior scales oblong-ovate, somewhat blunt, the margin membranous and brown, interior scales lanceolate and pointed.
COROLLA composita, radiata; Discus luteus, convexus; Radius albus patens.	COROLLA compound and radiate; Centre yellow and convex; Circumference white and spreading.
COROLLULÆ Hermaphroditæ, tubulosæ, numerosæ, infundibuliformes, quinquefidæ, in disco, fig. 1. Femininæ 16 circiter, in radio, oblongæ, obtusæ, tricenatæ, fig. 5.	FLORETS Hermaphrodite tubular, numerous, funnel-shaped, divided into five segments, in the centre, fig. 1. Female about 16 in the circumference, oblong, obtuse, three-notch'd, fig. 5.
ANTHERÆ flavæ, in tubum coalitæ, fig. 2.	ANTHERÆ yellow, forming a tube, fig. 2.
PISTILLUM Hermaphroditis: GERMEN oblongum, striatum, angulatum, glabrum, fig. 3. STYLUS filiformis, staminibus longior; STIGMATA duo, subrevoluta, superne ad lentem canaliculata, apicibus truncatis, crassiusculis, fig. 4. Feminis GERMEN et STYLUS ut in Hermaphroditis; STIGMA sub simile, laciniis minus revolutis, fig. 6.	PISTILLUM of the Hermaphrodite flowers: GERMEN oblong, finely grooved, angular, smooth, fig. 3. STYLE filiform, longer than the stamina; STIGMATA two, rolled a little back, on the upper part channelled if magnified, the tips truncated and thickish, fig. 4. of the Female flowers, GERMEN and STYLE as in the Hermaphrodite flowers; STIGMA somewhat similar, but less rolled back, fig. 6.
SEMEN oblongum, basi attenuatum, undique profunde sulcatum, ex nigro-purpurascens, fig. 7, 8. fig. 9. auct.	SEED oblong, slenderer towards the base, deeply grooved all round, and purplish black, fig. 7, 8. fig. 9. magn.

This species of Chrysanthemum is extremely common in meadows and pastures, sometimes even on walls, and in corn-fields; it is a hardy perennial, increases greatly by seed, and flowers in June and July.

As it is so prevalent in pastures, it is of no small consequence to ascertain how far it is agreeable to cattle, and, on such occasions, the only guide we have at present to consult, are the experiments of LINNÆUS; from those it appears that kine and swine refuse it, but that horses, sheep, and goats feed on it.

The fresh leaves chewed, discover a sweetish, unpleasing, slightly aromatic taste, somewhat like Parsly, but not hot or biting; they have been recommended in disorders of the breast, both asthmatical and pthysical, and as diuretics, but are now seldom called for.

As such a number of beautiful double varieties of the Common Daisy are met with in almost every garden, it has often been matter of wonder to us, that we never see this plant in a similar state: I have indeed been very credibly informed, that two double varieties of this plant exist in a garden near Air in Scotland, but never yet saw them.







# JUNCUS PILOSUS. SMALL HAIRY WOOD-RUSH.

JUNCUS *Lin Gen. Pl.* HEXANDRIA MONOGYNIA.

*Cal.* 6-phyllus, *Cor.* o. *Capf.* 1-ocularis.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

JUNCUS *pilosus* foliis planis pilosis, corymbo ramofo. *Lin. Syst. Vegetab.* p. 280. *Sp. Pl.* 468. *Fl. Suec.* 308.

JUNCUS foliis planis, hirsutus, floribus umbellatis, folitariis, petiolatis, aristatis. *Haller hist.* n. 1325.

JUNCUS *pilosus.* *Scopoli Fl. Carn.* n. 435.

GRAMEN nemorosum hirsutum latifolium minus. *Bauhin pin.* 7.

GRAMEN nemorosum hirsutum. *Ger. emac.* 19. majus *Park.* 1184.

GRAMEN nemorosum hirsutum vulgare. *Raii Syn.* p. 416. Small hairy Wood-Rush. *Hudson.* *Fl. Angl.* p. 151. *Lightfoot. Fl. Scot.* p. 186.

RADIX perennis, fibrosa, fibris numerosis, fuscis, stolonibus brevibus acutis quoque instruitur, ita ut subrepens dici potest.

CULMI plures, ex eadem radice, spithamæ et ultra, suberecti, foliosi, superne nudi, simplices, læves, striati, teretes, tribus aut quatuor geniculis minime protuberantibus instructi.

FOLIA radicalia plurima, tres quatuorve uncias longa, lineas tres, tresque cum dimidiâ lata, ad basin paulo angustiora, parum concava, superne obscure plerumque virentia et lævia glabraque, inferne dilutius virentia et glabra, ad margines autem, raris et longis pilis villosa, densius autem hirsuta sunt versus eorum origines, sæpe rubentia, apice obtusiuscula et subtruncata, caulina plana.

FLORES paniculati, panicula diffusa.

PEDUNCULI inæquales, pauci simplices, plures proliferi, dichotomi et trichotomi, demum retro porrecti, omnes uniflori, flosculis intermediis sessilibus.

CALYX *Gluma* bivalvis, *fig. 1.* Perianthium hexaphyllum, foliolis oblongis, acuminatis, carinatis, concavis, ex purpureo fuscis, persistentibus, *fig. 2.* auct.

COROLLA nulla.

STAMINA: FILAMENTA sex, capillaria, brevissima, ANTHERÆ oblongæ, erectæ, flavæ, *fig. 3.*

PISTILLUM: GERMEN triquetrum, acuminatum; STYLUS brevis, filiformis; STIGMATA tria, longa, filiformia, villosa, *fig. 4.*

ROOT perennial, and fibrous, fibres numerous and brown, it is also furnished with short pointed shoots, so that it may be called somewhat creeping.

STALKS many from the same root, about a span in length, sometimes more, nearly upright, leafy, naked above, simple, smooth, striated, round, furnished with three or four joints, which do not protuberate.

LEAVES next the root numerous, three or four inches long, and three lines or three and a half broad, somewhat narrowest at the base, a little concave, above generally of a dull green colour, smooth and rather glossy, beneath of a paler green, and slightly glossy, at the edges especially, covered with a few long hairs, which are most numerous towards the base of the leaf, often of a reddish colour, a little blunt and as it were cut off at the point, the stalk leaves flat.

FLOWERS forming a spreading panicle.

FLOWER-STALKS of unequal lengths, a few of them simple, most of them proliferous, dichotomous or trichotomous, finally stretch out backward, all of them supporting a single flower, the intermediate ones sessile.

CALYX: a *Glume* of two valves, *fig. 1.* a *Perianthium* of six leaves, which are oblong, pointed, keel'd, concave, of a purplish brown colour and permanent, *fig. 2.* magnified.

COROLLA wanting.

STAMINA: six FILAMENTS, capillary and very short; ANTHERÆ oblong, upright, and yellow, *fig. 3.*

PISTILLUM: GERMEN three-cornered, pointed; STYLE short, filiform: STIGMATA three, long, filiform, and villous, *fig. 4.*

The *Juncus pilosus*, *sylvaticus*, and *campestris*, are distinguished from the other species, by their grass-like hairy leaves; the first of these has some little affinity with the *campestris* already figured, but differs from it, not only in its place of growth, but in having its flowers stand singly, and not in clusters; while the *campestris* delights in exposed, the *pilosus* is found only in woods, and shady situations; and from this circumstance we may perhaps in some degree account for its flowering earlier than any of the others, for if the season be not very unfavourable, it will begin to flower in February, and is usually out of bloom the beginning of May.

We know of no use to which this species, or the *sylvaticus*, is applicable; nor yet from the places they inhabit, can they be considered in any degree noxious in Agriculture.













*Juncus sylvaticus.*



# JUNCUS SYLVATICUS. GREAT HAIRY WOOD-RUSH.

JUNCUS *Lin. Gen. Pl.* HEXANDRIA MONOGYNIA.

*Cal.* 6-phyllus. *Cor.* o. *Capf.* 1-locularis.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

JUNCUS *sylvaticus* foliis planis pilosis, corymbo decomposito, floribus fasciculatis sessilibus. *Hudson Fl. Angl.* p. 151.

JUNCUS foliis planis hirsutis, floribus paniculatis, fasciculatis. *Haller hist.* n. 1324.

GRAMEN nemorosum hirsutum latifolium majus. *Scheuch. Agroft.* p. 317. *C. B. Pin.* 7.

GRAMEN nemorosum hirsutum latifolium maximum. *Raii Syn.* p. 416. The greatest broad-leaved hairy Wood-Grafs.

GRAMEN luzulæ maximum. *J. B. II.* 493. *Lightfoot Fl. Scot.* p. 180.

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Authors have contributed not a little to mislead students, by describing this species of *Juncus*, as uncommonly large and scarce, and it is probable that Mr. RAY would not have considered it as a species, had he not by accident met with some very luxuriant specimens of it; in certain situations it doubtless may be found very large, and tall, but it more usually occurs with a stalk a little more than a foot high; of some plants growing in my garden, close to each other, in a moist, but not very shady situation, the comparative height of the *Juncus campestris*, *pilosus*, and *sylvaticus*, was as follows, *campestris* 9 inches, *pilosus* 11, and *sylvaticus* 15; the account of its being a scarce plant is still more erroneous, as there is hardly a wood in the neighbourhood of London, nor as far as we have observed in any part of the kingdom, in which they do not grow plentifully together; they do so at least in Bishop's-Wood, Hampstead, which is near the spot where Mr. RAY describes his plant as growing.

By LINNÆUS this plant is considered as a variety only of the *pilosus*: Mr. HUDSON and Baron HALLER, examining it with more attention than LINNÆUS, make a distinct species of it, and give such a description of it as cannot fail to make it known.

To the characters given in their synonyms above quoted, we may add that the leaves are not only much broader, and more concave, but more sharply pointed than those of the *pilosus*, that it flowers three weeks or a month later, and that when the flowering is over, the flower-stalks of the *pilosus* are more reflexed or pendulous than those of the *sylvaticus*.

This species flowers in May, or earlier if the season be a mild one.







# SCANDIX PECTEN. SHEPHERDS NEEDLE, or VENUS'S COMB.

SCANDIX *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

*Corolla radiata. Fructus subulatus. Petala emarginata. Flosculi disci  
sæpe masculi.*

*Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.*

SCANDIX *Pecten* feminibus lævibus rostro longissimo. *Lin. Syst. Veget. ed. 14. p. 287. Sp. Pl. p. 368.*

MYRRHIS feminis cornu longissimo. *Haller hist. n. 754.*

SCANDIX *Pecten. Scopoli Fl. Carn. n. 349.*

SCANDIX femine rostrato vulgaris. *Bauh. Pin. 152.*

PECTEN VENERIS I. B. III. 2. 71.

PECTEN VENERIS seu scandix. *Ger. emac. p. 1040.*

SCANDIX vulgaris, seu Pecten Veneris. *Park. 916. Raii Syn. p. 207. Shepherds Needle, or  
Venus's Comb. Hudson Fl. Angl. ed. 2. p. 123. Lightfoot Fl. Scot. p. 166. Jacquin  
Fl. Austr. t. 263.*

RADIX annua, simplex, albida, paucis fibrillis in- structa.	ROOT annual, simple, whitish, furnished with few fibres.
CAULIS nunc solitarius, nunc plures ex eadem ra- dice, ramosi, diffusi, villosi, semipedales, aut pedales, inferne purpurei, aut lineis pur- pureis striati, teretes, ad geniculos vix increas- cati.	STALK sometimes single, sometimes several from the same root, branched, spreading, villous, half a foot or a foot in height, below purple, or striped with purple lines, round, and scarcely thickened at the joints.
FOLIA dauci instar tenuiter divisa, ad basin vagi- nantia, laciniis linearibus, bifidis trifidisve, acutis, ad lentem rariter ciliatis, fig. 1.	LEAVES finely divided like those of wild carrot, forming a sheath at bottom, segments linear, bifid or trifid, pointed, and, if viewed with a microscope, thinly edged with hairs, fig. 1.
INVOLUCRUM universale nullum.	INVOLUCRUM: general Involucrum wanting.
UMBELLA: universalis plerumque biradiata.	UMBEL: general Umbel usually composed of two radii.
INVOLUCRUM parziale magnum, pentaphyllum, foliolis nervosis, ciliatis, bifidis.	INVOLUCRUM: partial Involucrum large, five- leaved, leaflets ribb'd, edged with hairs, and bifid.
FLORES Umbellulæ quinque ad septem, plerumque fertiles, albæ.	FLOWERS of the small Umbel from five to seven, for the most part fertile and white.
COROLLA: PETALA quinque, obverse ovata, apice inflexa, patentia, exteriore majore, fig. 2.	COROLLA: five PETALS, inversely ovate, bent in at the tip, spreading, the outermost petal largest, fig. 2.
STAMINA: FILAMENTA quinque, alba; ANTHERÆ primo virentes, demum nigricantes, fig. 3.	STAMINA five white FILAMENTS; ANTHERÆ first greenish, finally blackish, fig. 3.
PISTILLUM: GERME brevissime pedicellatum, oblongum, hirsutum; STYLI duo, subu- lati, erecti, persistentes; STIGMATA simpli- cia, fig. 4, 5.	PISTILLUM: GERME standing on a very short footstalk, oblong and slightly hirsute; STYLES two, tapering, upright and permanent; STIGMATA simple, fig. 4, 5.
SEMINA duo, fusca, hinc convexa, striata, inde plana hirsutula, in rostrum longissimum ex- currentia, fig. 7.	SEEDS two, brown, convex and striated on one side, and flat on the other, slightly hirsute, running out into a very long beak, fig. 7.
NECTARIUM: ad basin stylorum, purpurei coloris, fig. 6.	NECTARY at the base of the styles, of a purple colour, fig. 6.

Common in corn fields, not only in Great-Britain, but in all the southern parts of Europe, sometimes so  
plentiful, as to prove injurious to the farmer.

Is particularly distinguished from all our other umbelliferous plants by the uncommon length of the beak  
of the seeds, as well as by the singularity of the leaves of the Involucellum, which are uncommonly large  
and bifid.

Flowers in June, and ripens its seed in July.

Its seed-leaves, on their first appearance above ground, are uncommonly long.





*Scandix Pecten*









*Atropa Belladonna*



# ATROPA BELLADONNA. DWALE, or DEADLY NIGHTSHADE.

ATROPA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

*Cor.* campanulata. *Stam.* distantia. *Bacca* globosa, 2-locularis.

*Raii Syn. Gen.* 16. *Herbæ Bacciferæ.*

ATROPA *Belladonna* caule herbaceo, foliis ovatis integris. *Lin. Syst. Vegetab. ed.* 14. p. 221. *Sp. Plant.* p. 260.

BELLADONNA caule herbaceo, brachiato, foliis ovato lanceolatis, integerrimis. *Haller. hist.* n. 579.

BELLADONNA *trichotoma.* *Scopoli Fl. Carn.* n. 255.

SOLANUM *melanocerasus.* *Bauh. pin.* 166.

SOLANUM *lethale.* *Ger. emac.* 340. *Parkins.* 345. *Raii Syn.* p. 265. Deadly Nightshade, Dwale. *Hudson Fl. Angl.* p. 93. *Lightfoot Fl. Scot.* p. 144. *Jacquin Fl. Austr.* t. 309.

RADIX perennis, crassa, albida, ramosa, repens.	ROOT perennial, thick, whitish, branched, and creeping.
CAULES plures, basi digitum crassi, tripedales et ultra, erecti, herbacei, teretes, ramosi, in apicis sordide purpurei, pubescentes.	STALKS several, at bottom the thickness of one's finger, three feet or more high, upright, herbaceous, round, branched, in exposed situations of a dingy purple colour, downy.
FOLIA petiolata, ovata, acuta, integerrima, utrinque lævia, venosa, ad latera caulis ramorumque gemina et magnitudine inæqualia, inter quæ pedunculus uniflorus et sæpius solitarius egreditur.	LEAVES standing on footstalks, ovate, pointed, perfectly entire, smooth on both sides, veiny, growing in pairs (but unequal in size) from the sides of the stalks, from betwixt them rises the flower-stalk supporting one flower, and usually single.
PEDUNCULI teretes, visceri, ad flores paululum incrassati.	FLOWER-STALKS round, viscid, thickened somewhat next the flowers.
FLORES cernui, inodori, sordide purpurei, subvisceri, externe nitidi, venosi.	FLOWERS drooping, scentless, of a dingy purple colour, somewhat viscid, externally glossy and veiny.
CALYX: PERIANTHIUM monophyllum, quinquepartitum, angulatum, laciniis ovato-acuminatis, inæqualibus, viscosis, fig. 1.	CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, angular, the segments ovato-acuminate, unequal, and viscid, fig. 1.
COROLLA monopetala, campanulata; Tubus brevissimus, albus, subpentagonus; Limbus ventricosus, ovatus, ore quinquefido, patulo, laciniis subæqualibus, fig. 2.	COROLLA monopetalous, bell-shaped; Tube very short, white, slightly five-cornered; Limb bellying out, ovate, mouth spreading, divided into five equal segments, fig. 2.
STAMINA: FILAMENTA quinque, albida, quorum duo breviora, inferne paulo crassiora, apice incurva, longitudine tubi; ANTHERÆ magnæ, didymæ, lutescentes, remotæ, fig. 3.	STAMINA: five FILAMENTS, whitish, two of which are a little shorter than the rest, somewhat thickest towards the base, and hairy, bent down at top, the length of the tube; ANTHERÆ large, double, yellowish, and remote, fig. 3.
PISTILLUM: GERMEN semiovatum, utrinque fuscum, ad basin glandula lutescente cinctum; STYLUS filiformis, flaminibus longior, inclinatus; STIGMA capitatum, assurgens, transverso-oblongum, bilabiatum, viride, fig. 4.	PISTILLUM: GERMEN semiovate, with a groove on each side, surrounded at bottom with a yellowish gland; STYLE thread-shaped, longer than the stamina, inclined downwards; STIGMA forming a little head, transversely oblong, two-lip'd, of a green colour, fig. 4.
PERICARPIUM: BACCA atra, nitida, subrotunda, saporis dulcis, bilocularis, fig. 5, 6.	SEED-VESSEL: a black, glossy, roundish BERRY, of a sweet taste, with two cavities, fig. 5, 6.
SEMINA plurima, fusca, irregularia, fig. 7.	SEEDS numerous, brown, and irregular in shape, fig. 7.
Obs. Semina fufcescunt priusquam Bacca nigrescit.	Obs. The seeds turn brown before the Berry becomes black.

The rage for building, joined to the numerous alterations perpetually making in the environs of London, have been the means of extirpating many plants which formerly grew plentifully around us. To this cause we are to attribute the loss of the present plant, which the late Sir WILLIAM WATSON and Mr. STANESBY ALCHORNE of the Tower, gentlemen eminent for their knowledge of British plants, have often assured me grew, within their remembrance, in several places near town; happily we are now under the necessity of going much further into the country, if we wish to see it grow wild. We have frequently noticed it in many of the chalk-pits in Kent, and in both shady and exposed situations elsewhere; in particular, we remember to have seen it growing in great abundance on Keep-Hill, near High Wycomb, Buckinghamshire. Close by the spot where we observed it, there chanced to be a little boy; I asked him, if he knew the plant? He answered "Yes; it was *naughty man's cherries.*" I then inquired of him, if he had ever eaten any of the berries? He said he had, with several other children from an adjoining poor-house, and that it made them all very sick, but that none of them had died.

Was not this plant studiously destroyed wherever it is found wild, it would be much more common than it is; for there are few plants to which nature has been so liberal in the means of increase: it has a very large perennial root, which runs deep into the earth, multiplies greatly, and frequently creeps under ground to a great distance; added to this, its berries are very numerous, and contain a prodigious quantity of seeds.

Forbidding



Forbidding as this plant may appear to some, its large glossy berries are certainly a great temptation to children; and, therefore, gentlemen, if they have the plant in their gardens, should never suffer it to ripen its fruit.

It flowers in June and July; its berries are ripe in August and September.

Numerous instances of the pernicious, and even deleterious effects of the deadly Nightshade are on record; among others, such of our readers as are fond of history will not be displeased with the prolixity of the following account taken from *Blair's Pharmaco-Botanologia*, p. 81.

"The *Solanum Lethale* seems to produce the same effects with the *Hyoscyamus*, *Cynoglossum*, and other intense Narcotics, which usually, before they affect the person with sleep, produce delirious and maniacal symptoms; however it is an herb of so pernicious a nature, that scarce any Author who treats of it fails, from proper observation, or good information, to give dismal instances of its bad effects. *Simon Pauli* refers us to *Lobelius* his *Adversaria*, and *Bodeus à Stapel*. Mr. *Ray*'s account of what happened to a Mendicant Friar, upon the taking a glass of the infusion of it in mallow wine, gives a good account of the various symptoms it produces. In a short time, he became delirious, after a little (*Cachinne*) a grinning laughter like the *Rifus Sardonicus* succeeded; after that several irregular motions; and at last a real madness, and such a stupidity as those that are sottishly drunk have: which after all was cured by a draught of vinegar. Mr. *Miller* mentions several Children at *Croydon*, who not long since were poisoned. Another instance of its bad effects has fallen under my own observation: two or three persons not far from hence, having got into a gentleman's garden, were delighted with the black berries of the *Solanum Lethale*, and eat some of them; it was very pleasant (within a short time after) to see their frantic humours, gestures, and speeches: but upon their taking of emetics in due time, they were cured. It is worthy of recital what Mr. *Ray* tells us happened to a Lady of Quality of his acquaintance, who having a small ulcer a little below her eye, which she suspected to be cancerous; she applied a bit of the leaf of this *Solanum*, which so relaxed the *Tunica Uvea* in one night, that she could not contract the *Pupilla* the next day, so that the *Pupilla* of the one eye was four times as big as the other; and upon the removal of the leaf, the fibres recovered their muscular tone by degrees: and, lest this should seem to be merely accidental, she repeated the experiment three times, at which Mr. *Ray* himself was present.

"But the most memorable instance of the direful effects of this Plant is to be seen recorded by the celebrated *Buchanan*, in his History of Scotland, by which we may observe how the Almighty God can convert the most deadly poisons into the fittest antidotes, for those whom he has a mind to preserve. This obliges me to make a digression, not altogether unsuitable, since it gives the botanical description of a Plant, writ about a hundred and fifty years ago, by one who himself was no professed Botanist, the use made of it, and the wonderful effects it produced.

"In the reign of *Duncan I. King of Scotland* (who was afterwards murdered by *Mackbeth the Tyrant*) *Hirold the Dane* invaded England, not long before the days of *King William the Conqueror*: *Sweno*, his brother, at the same time invaded Scotland. Upon his landing in *Fife*, he obtained a signal victory, which obliged the King of Scotland, with the remainder of his routed forces, to retire to *Bertha* (an ancient town of great note situated on the river *Tay*, which was not long after destroyed by an inundation, and out of whose ruins the town of *Perth* was built, and now stands upon the same river, two miles nearer the sea) and pursued them so closely, that he laid siege to the town both by land and water. The Scots were put to great straits; not for want of provisions, but for want of men to repel the besiegers. *King Duncan* was a peaceable unactive man; he had sometime before committed the government to the management of *Bancho*, of a cunning and subtle wit; and to *Mackbeth*, of a fierce, bold, aspiring spirit. *Mackbeth* went to the country to raise a reinforcement, while *Bancho* treated with the enemy, and first obtained a cessation of arms, and then spun out time by framing of articles of peace. The Danes wanted provisions, but abounded with men; the Scots abounded in provisions, but wanted men. The truce was equally acceptable to both, especially to the Danes, who for the present expected plenty of all things, and for the future the conquest of a whole kingdom. Care was immediately taken by the Scots to afford them all manner of liquors, both wine and ale, and they continued to mix with them a good quantity of the Deadly Nightshade (this *Solanum Lethale*, or *Somniferum*) of which we now treat. The bait took; the Danes drank plentifully, and were all intoxicated: mad with this poisonous juice, and asleep through drunkenness, the Scots fell upon them, killed the most part, and, with much ado, a few remaining got to their vessels, while their befuddled King was carried, like a sack-load, upon a beast down to the river, where there were scarce sailors enough saved from the slaughter to man the vessels."

*DEERING* relates, that a friend of his, a Dr. *Medley*, has several times eaten three or four of the berries, without receiving any hurt: and *HALLER* mentions his having seen a medical student swallow several. It is probable that these berries will not kill, unless many are eaten, but perhaps this poison, like many others, may act differently on different constitutions.

Vinegar has been recommended as an antidote to its poison: but powerful evacuations, particularly vomiting, are most to be depended on. In cases where a poison of this kind is known to have been swallowed, the medical practitioner will be justified in a bold practice, for his patient is not only in a very dangerous situation, but the effect of emetics has been known to be lessened by the poison, so that fourteen grains of Emetick Tartar have been scarcely sufficient to excite vomiting.

Many substances, which in large quantities, or injudiciously administered, have proved poisonous, in small doses, skilfully exhibited, have been found extremely efficacious in the cure of diseases, and hence this, as well as other plants have been tried, particularly in such disorders as have no impression made on them by common remedies: but after numerous trials, there appears but little hopes of success from the *Atropa Belladonna*.

Such as wish to know the particular diseases against which the Deadly and the Garden Nightshades have been directed, with the various symptoms they have produced on being taken, may consult *GATAKER'S Observations on the Internal Use of the Nightshade, with the Supplement*; and *BROMFIELD'S Account of the English Nightshades, and their Effects*, 1757.

We have seen a goat eat, without injury, the leaves and stalks; and the caterpillar of the *Phalæna Antiqua*, *Roefel* t. 39, and *Brassicæ Roefel* t. 29, feed on its foliage.





# LEUCOJUM ÆSTIVUM. SUMMER SNOWFLAKE.

LEUCOJUM *Lin. Gen. Pl.* HEXANDRIA MONOGYNIA.

*Cor.* campaniformis, 6-partita, apicibus incrassata. *Stigma* simplex.

*Raii Syn. Gen.* 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

LEUCOJUM *æstivum* spatha multiflora, stylo clavato. *Lin. Syst. Vegetab.* p. 316. *Sp. Pl.* p. 414. *Jacquin Fl. Austr.* t. 203. v. 4.

LEUCOJUM *æstivum.* *Scopoli Fl. Carn.* n. 393.

LEUCOJUM bulbosum majus f multiflorum. *Bauh. Pin.* 55.

LEUCOJUM bulbosum serotinum majus 1. *Clus. hist.* 1. p. 170.

LEUCOION bulbosum polyanthemum. *Dodon. Stirp hist.* p. 230. The great late flowering Bulbous Violet. *Park. Parad.* p. 110.

RADIX: *Bulbus* magnitudine nucis castaneæ, sub-ovatus, extus pallide fuscus, intus albus, tunicatus, lamellis plurimis, tenuibus, dense compactis.

FOLIA plurima, sesquipedalia, erecta, sublinearia, saturate viridia, unciam fere lata, obtusa, superne plana, inferne leviter carinata, carina obtusa, exteriora breviora.

SCAPUS foliis paulo altior, multiflorus, fistulosus, subcompressus, anceps, subtortuosus, uno latere nonnunquam obtuso, altero acuto.

PEDUNCULI plerumque quinque ex eadem spatha, uniflori, angulati, longitudine inæquales.

FLORES albi, penduli, secundi, vix odori.

COROLLA campaniformi-patens, *Petala* sex, ovata, alba, intus striata, basi minime cohærentia, apicibus crassiusculis, strictioribus, macula viridi insignitis.

STAMINA: FILAMENTA sex, alba, filiformia: ANTHERÆ oblongæ, subquadrangulares, erectæ, luteæ, apice poris duobus dehiscentes, *fig.* 1, 2.

PISTILLUM: GERMEN subovatum, inferum: STYLUS albus, flaminibus paulo longior, inferne attenuatus, superne virescens; STIGMA breve, setaceum, erectum, acutum, *fig.* 3.

PERICARPIUM: CAPSULA subpyriformis, membranacea, trilocularis, trivalvis, *fig.* 4.

SEMINA plura, majuscula, subrotunda, atra, nientia, *fig.* 5.

ROOT: a *Bulb* the size of a chesnut, somewhat ovate, externally of a pale brown colour, internally white, coated, the coats numerous, thin, and closely compacted.

LEAVES numerous, about a foot and a half in length, upright, nearly linear, of a deep green colour, almost an inch in breadth, obtuse, above flat, beneath slightly keeled, the keel obtuse, the lowermost leaves shortest.

STALK a little higher than the leaves, supporting many flowers, hollow, slightly flattened, two-edged, a little twisted, one side sometimes obtuse, the other acute.

FLOWER-STALKS for the most part five proceeding from the same sheath, each supporting a single flower, angular, and of unequal lengths.

FLOWERS white, pendulous, growing all one way, with little scent.

COROLLA somewhat bell-shaped, spreading, *Petals* six, ovate, white, finely grooved within side, not at all uniting at bottom, tips thickish, a little puckered, and marked with a green spot.

STAMINA six white, thread-shaped FILAMENTS: ANTHERÆ oblong, somewhat quadrangular, upright, yellow, each cell open at top, *fig.* 1, 2.

PISTILLUM GERMEN somewhat ovate, beneath; STYLE white, a little longer than the stamina, tapering downwards, above greenish; STIGMA like a small, short, upright, pointed bristle, *fig.* 3.

SEED-VESSEL: a CAPSULE somewhat pear-shaped, membranous, having three cavities and three valves, *fig.* 4.

SEEDS several, somewhat large, nearly round, black, and glossy, *fig.* 5.

Flowers about the middle of May.

Is found *undoubtedly wild*, betwixt *Greenwich* and *Woolwich*, about half a mile below the former, close by the Thames side, just above high water mark, growing (where no garden, in all probability, could ever have existed) with *Arundo Phragmites*, *Caltha palustris*, *Oenanthe crocata*, and *Angelica sylvestris*: Prof. JACQUIN, who figures it in the *Flora Austriaca*, and SCOPOLI, in his *Flora Carniolica*, describe it as growing in similar situations; their words are, *crescit in pratis udis et sub palustribus*. It has also been found in the *Isle of Dogs*, which is the opposite shore.

How so ornamental a plant, growing in so public a place, could have escaped the prying eyes of the many Botanists who have resided in London for such a length of time, seems strange: for my own part, I am perfectly satisfied of its being a native of our island, and have no doubt but it will be found in many other parts of it.

The figure we have given, was drawn on the spot above described, where it grows more luxuriantly than we usually see it in gardens; the reason of which is, that in gardens it seldom has a soil or situation sufficiently moist.

The older Botanists, and even TOURNEFORT, united it with the Snowdrop; and in our gardens it is generally known by the name of the *great Summer Snowdrop*; but as it differs very essentially in its fructification from the *Galanthus*, we have thought it necessary to give it the new English name of *Snowflake*, to correspond in some degree with the Linnæan generic name *Leucojum*.





*Leucojum aestivum*









*Alisma Damasonium*



# ALISMA DAMASONIUM. STARRY-HEADED WATER-PLANTAIN.

ALISMA *Lin. Gen. Pl.* HEXANDRIA POLYGYNIA.

*Cal.* 3-phyllus. *Petala* 3. *Sem.* plura.

*Raii Syn. Gen.* 27. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

ALISMA *Damasonium* foliis cordato oblongis, floribus hexagynis, capsulis subulatis. *Lin. Syst. Vegetab. p.* 350. *Sp. Pl. p.* 486.

PLANTAGO aquatica stellata. *Bauh. Pin.* 190.

DAMASONIUM stellatum Dalechampii. *I. B. III.* 789.

PLANTAGO aquatica minor stellata. *Ger. emac.* 417.

PLANTAGO aquatica minor muricata. *Park.* 1245. *Raii Syn.* Star-headed Water-Plantain. *Hudsf. Fl. Angl. ed. 2. p.* 158.

RADIX	perennis, fibrosa, fibris plurimis, densissime capillatis, simpliciusculis, ex fusco-aurantiacis, in limum profunde demissis, junioribus albis.	ROOT	perennial, fibrous, fibres numerous, thickly matted together, mostly simple, of a brownish orange colour, striking deeply into the mud, the young ones white.
FOLIA	longe petiolata, natantia, cordato-oblonga, integerrima, utrinque glabra, obtusa, margine ipsa purpurascens, subtus nervosa, nervis duobus vix protuberantibus parallelis prope marginem.	LEAVES	standing on long footstalks, swimming, of an oblong heart shape, perfectly entire, smooth on both sides, obtuse, the very edge purplish, ribb'd on the under side, two very slightly, prominent, parallel ribs near the margin.
PETIOLI	obtusè trigoni, subdiaphani, spongiosi, ad basin lati, et membranâ albidâ utrinque instructi.	LEAF-STALKS	obtusely three-cornered, somewhat transparent, spongy, broad at the base, and edged on each side with a whitish membrane.
SCAPUS	spithamæus, teres, lævis, nudus, crassiusculus, superne sordide purpureus, multiflorus.	STALK	about a span long, round, smooth, naked, clumsy, of a dirty purple colour above, many-flower'd.
FLORES	albi, subumbellati.	FLOWERS	white, growing umbel-like.
UMBELLÆ	plerumque tres, inferior lateralis, octoradiata, proxima superior sexradiata, suprema triradiata, numerus vero variat in diversis plantis.	UMBELS	for the most part three, the lowermost lateral, eight-rayed, the next above six-rayed, the uppermost three-rayed, the number however varies in different plants.
INVOLUCRUM	umbellæ triphyllum, foliolis ovato-lanceolatis, membranaceis, marcescentibus.	INVOLUCRUM	of the umbel three-leav'd, leaves ovato-lanceolate, membranous, and withering.
PEDUNCULI	qui radii umbellæ, teretes, nudi, sesquiunciales, superioribus brevioribus.	FLOWER-STALKS	which form the rays of the umbel, round, naked, an inch and a half in length, the upper ones shortest.
CALYX: PERIANTHIUM	triphyllum, foliolis subovatis, obtusis, concavis, patentibus, apice membranaceis, cito marcescentibus, fig. 1.	CALYX:	a PERIANTHIUM of three leaves, the leaflets nearly ovate, obtuse, concave, spreading, membranous at the top, and soon withering, fig. 1.
COROLLA:	PETALA tria, subrotunda, alba, tenera, ungue flavo, fig. 2.	COROLLA	composed of three roundish, white, tender PETALS with yellow claws, fig. 2.
STAMINA: FILAMENTA	sex, subulata, flavescentia, corollâ breviora: ANTHERÆ oblongæ, flavæ, fig. 3.	STAMINA:	six tapering yellowish FILAMENTS, shorter than the corolla: ANTHERÆ oblong and yellow, fig. 3.
PISTILLUM: GERMINA	plerumque sex, subulata, erecta: STYLI nulli: STIGMATA villosa, subreflexa, fig. 4.	PISTILLUM: GERMINA	for the most part six in number, tapering, upright: STYLES none: STIGMATA villous, somewhat reflexed, fig. 4.
PERICARPIUM: CAPSULÆ	sex, patentes, subulatæ, inferne compressæ, uniloculares, monospermæ vel dispermæ, fig. 5.	SEED-VESSEL:	six spreading CAPSULES, tapering to a point, flattened below, one-cell'd, a single seed or two in each, fig. 5.
SEMEN	oblongum, obtusum, nigricans, nitidum, ad lentem punctis exasperatum, sulco per medium utrinque longitudinali, fig. 6.	SEED	oblong, obtuse, blackish, shining, when magnified appearing rough with little prominent points, a groove running down the middle on each side, fig. 6.

Not very uncommon in the neighbourhood of London, in ditches, stagnant waters, and ponds, especially such as have been formed by the digging of gravel: particularly plentiful in such like ponds on Wandsworth Common, with *Sparganium simplex*: also, about Clapham, Walworth, &c.

Flowers from June to September.

Is not remarkable for its qualities or uses.

TOURNEFORT makes a distinct genus of the *Damasonium*, referring the *Alisma Plantago* and *ranunculoides* to the genus *Ranunculus*.

RAY also separates it from the *Plantago aquatica*, but observes that it agrees with it in its tripetalous flowers, though it differs in its seed-vessels.

Notwithstanding this discrepancy in the seed-vessels, the other parts of its fructification, joined to its general habit, in our humble opinion, fully justify LINNÆUS in making it an *Alisma*.







# CHENOPODIUM OLIDUM. STINKING BLITE, or ORACH.

CHENOPODIUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

*Cal.* 5-phyllus, 5-gonus. *Cor.* o. *Semen* 1. lenticulare superum.

*Raii Syn. Gen.* 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHENOPODIUM *Vulvaria* foliis integerrimis, rhomboideo-ovatis, floribus conglomeratis axillaribus. *Lin. Syst. Vegetab.* p. 216. *Sp. Pl.* 321. *Fl. Suec.* 222.

CHENOPODIUM caule diffuso, foliis obtuse lanceolatis. *Haller hist. n.* 1577.

CHENOPODIUM *Vulvaria.* *Scopoli Fl. Carn. n.* 281.

ATRIPLEX foetida. *Bauh. Pin.* 119.

ATRIPLEX olida. *Ger. emac.* 327.

ATRIPLEX sylvestris foetida. *Park.* 749.

BLITUM foetidum *Vulvaria* dictum. *Raii Syn.* p. 156. Stinking Orache. *Hudson Fl. Angl. ed.* 2. p. 107. *Lightfoot Fl. Scot. p.* 149.

Tota planta farina alba pellucida adspersa.

RADIX annua, fibrosa.

CAULES plures, diffusi, teretes, substriati, nudiusculi.

FOLIA alterna, petiolata, rhomboideo-ovata, integerrima.

FLORES axillares et terminales, dense glomerati, subsPICATI.

FRUCTIFICATIO a reliquis hujus generis vix diversa.

*Fig. 1.* exhibet Calycem, Stamina, cum Pistillo.

*Fig. 2.* Semen Calyce inclusum.

*Fig. 3.* Semen seorsim. Omnia auct.

♦ The whole plant sprinkled with a white pellucid meal.

♦ ROOT annual and fibrous.

♦ STALKS numerous, spreading, round, somewhat striated, and thinly beset with leaves.

♦ LEAVES alternate, standing on footstalks, rhomboid-ovate, perfectly entire.

♦ FLOWERS axillary and terminal, thickly clustered, and somewhat spiked.

♦ FRUCTIFICATION scarcely different from the rest of this genus.

♦ *Fig. 1.* exhibits the Calyx, with the Stamina and Pistillum.

♦ *Fig. 2.* The Seed enclosed by the Calyx.

♦ *Fig. 3.* The Seed separate. All magnified.

There is some difficulty in ascertaining several of the plants of this genus, but that difficulty cannot be alleged against the present species, as it is at all times, both fresh and dried, discoverable by its smell alone; the whole plant, if ever so slightly bruised betwixt the thumb and fingers, communicating a very permanently disagreeable odour, resembling, in the opinion of most persons, stale salt fish: it is, moreover, a procumbent plant.

This species is very common in the neighbourhood of London, on dry banks, and at the foot of walls and paling, where it flowers from July to September. LEWIS errs egregiously when he says it naturally delights in moist places.

It is a plant of little consequence, except in a medicinal point of view, and in that its virtues are, perhaps, ill-founded; it retains, however, a place in the London and Edinburgh Dispensatories.

“ Stinking Orache, on account of its strong scent, is reckoned an useful antihysterical; in which intention, some recommend a conserve of the leaves, others a watery infusion, and others a spirituous tincture of them. On some occasions it may, perhaps, be preferable to the fetids, which have been more commonly made use of, as not being accompanied with any pungency or irritation, and seeming to act merely by virtue of its odorous principle.” *Lewis's Mat. Med.* p. 124.





*Chenopodium olidum.*









*Lathyrus Aphaca.*



# LATHYRUS APHACA. YELLOW VETCHLING.

LATHYRUS *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

*Stylus planus, supra villosus, superne latior. Cal. laciniae superiores 2 breviores.*

*Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.*

LATHYRUS *Aphaca pedunculis unifloris, cirrhis aphyllis, stipulis sagittato-cordatis. Lin. Syst. Vegetab. p. 662. Sp. Pl. 1029.*

LATHYRUS *aphyllos stipulis sagittatis latissimis. Haller hist. n. 442.*

LATHYRUS *Aphaca. Scopoli Fl. Carn. n. 887.*

VICIA *lutea foliis convolvuli minoris. Bauh. Pin. 345.*

APHACA *Parkin. 1067. Ger. emac. 1250. Raii Syn. ed. 3. p. 320. Hudson Fl. Angl. ed. 2. p. 315.*

RADIX annua, fibrosa.

CAULIS pedalis, sesquipedalis, et ultra, debilis, ope cirrhorum scandens, tetragonus, laevis.

FOLIA nulla.

STIPULÆ binæ, magnæ, sagittato-cordatæ, obtusæ, utrinque prope basin denticulo notatæ, glaucæ, subtus nervosæ.

CIRRHUS simplex, patens.

FLORES lutei, parvi, solitarii, pedunculati, axillares.

PEDUNCULI foliis longiores, tetragoni, uniflori, bractæa minimâ prope florem instructi.

CALYX: PERIANTHIUM monophyllum, quinque partitum, laciniis lanceolatis, subæqualibus, nervosis, longitudine fere corollæ, fig. 1.

COROLLA papilionacea, VEXILLUM luteum, reflexum, intus lineis cæruleis striatum, fig. 2. ALÆ luteæ, subrotundæ, longitudine carinæ, hamis duobus inæqualibus, pallidioribus, fig. 3. CARINA pallide sulphurea, postice filia, fig. 4.

STAMINA: FILAMENTA decem, simplex, et novem fidum, assurgentia, albida, ANTHERÆ subrotundæ, luteæ, fig. 5.

PISTILLUM GERME oblongum, compressum, viride, glabrum; STYLUS sursum erectus, pallidior, superne latior, obtusus; STIGMA a medietate styli antice villosus, fig. 6.

PERICARPIUM: LEGUMEN unciale, latiusculum, compressum.

SEMINA septem octave, subrotunda, nitida.

ROOT annual, and fibrous.

STALK a foot, a foot and a half or more in height, weak, climbing by means of its tendrils, four-cornered, and smooth.

LEAVES none.

STIPULÆ growing in pairs, large, betwixt arrow and heart-shaped, obtuse, on each side near the base furnished with a tooth, glaucous, and ribbed on the under side.

TENDRIL simple and spreading.

FLOWERS yellow, small, solitary, growing on footstalks from the axæ of the leaves.

FLOWER-STALKS longer than the leaves, four-cornered, one-flowered, furnished near the flower with a minute bractæa or floral leaf.

CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, which are lanceolate, nearly equal, ribbed, and almost the length of the corolla, fig. 1.

COROLLA papilionaceous, STANDARD yellow, reflexed, striped on the inside with blue lines, fig. 2. WINGS yellow, nearly round, the length of the keel, claws two, unequal, paler, fig. 3. KEEL of a pale sulphur colour, cloven behind, fig. 4.

STAMINA: ten FILAMENTS, one single, nine connected, rising upwards, whitish; ANTHERÆ roundish and yellow, fig. 5.

PISTILLUM GERME oblong, flat, green, and smooth, STYLE rising upwards, upright, paler, dilated above, obtuse; STIGMA which rises from the middle of the style villous on its fore part, fig. 6.

SEED-VESSEL: a POD about an inch in length, broadish, and flattened.

SEEDS seven or eight, roundish, and shining.

We have here a very unusual phenomenon in the vegetable œconomy, a plant whose stipulæ supply the place of leaves, at least when the plant becomes of a certain age; for, by a kind of accidental examination, we lately discovered that this species of Lathyrus, soon after it comes up from seed, is usually furnished with one or more pair of leaves, similar to the other plants of this family, but which, as the plant advances, totally disappear; these are represented at fig. 7.

A somewhat similar appearance we noticed last summer at Mr. MALCOLM's, *Kennington*, in a rare species of *Mimosa*, called *verticillata*, all the leaves of the young plants were pinnated, and all those of the old plants whorled.

LINNÆUS, in his *Species Plant.* takes some notice of the *Aphaca*'s producing leaves; his words are, *Cirrhus interdum aliquis gerit foliola conjugata, 2, lanceolata, reliquis Lathyris semillima at hoc rarissime.*

According to our observation, the leaves grew on footstalks in the usual way, without any, or a very short tendril, and they were observable on every seedling; hence we suspect them to be common to this plant when young; and rare, merely from being overlooked.

This species is an annual which grows spontaneously in our corn fields, but is not common in the neighbourhood of London; we have observed it most frequently about *Tottenham* and *Enfield*.

It flowers in June and July.

No particular uses or noxious qualities are ascribed to it.







# MELICA CÆRULEA. BLUE MELIC-GRASS.

MELICA *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

*Cal.* 2-valvis, 2-florus. *Rudimentum* floris inter flosculos.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

MELICA *cærulea* panicula coarctata floribus cylindricis. *Lin. Syst. Vegetab.* p. 113.

AIRA *cærulea* foliis planis, panicula coarctata, floribus pedunculatis muticis convoluto subulatis. *Lin. Sp. Pl.* 95. *Fl. Suec.* n. 67.

POA spiculis subulatis panicula rara contracta. *Fl. Lapp.* 29.

AIRA *cærulea.* *Scopoli Fl.* n. 91.

GRAMEN arundinaceum enode minus sylvaticum. *Bauh. Pin.* 7. *Scheuch Agrost.* 209.

GRAMEN pratense ferotinum, panicula longa purpurascens. *Raii hist.* 1288. *Morif. hist.* 3. p. 201. f. 8. t. 5. f. 22.

GRAMEN pratense spica Lavendulæ. *Merr. Pin.* 5. *Raii Syn.* 404. *Hudson. Fl. Angl. ed.* 2. p. 33. *Lightfoot Fl. Scot.* p. 96.

RADIX perennis, fibrosa, fibris crassis, albidis seu fuscescentibus, flexuosis, villosis.

CULMUS pedalis, sesquipedalis, aut bipedalis, basi sub-bulbosus, erectus, unico tantum nodo, eoque prope basin instructo, superne nudus, lævis.

FOLIA plerumque tria, aut quatuor, palmaria, et ultra, ex cæruleo virescentia, latiuscula, acuminata, rigidula, inferiora plana, superiora subconvoluta, ad margines pilosa, Membrana nulla, Vagina brevis, striata.

FLORES paniculati.

PANICULA palmaris, et ultra, ramosa, ramis appressis, hinc subspicata.

SPICULÆ bifloræ, trifloræ, et quadrifloræ, sæpius vero trifloræ, fig. 1, 2, 3, cum rudimento flosculi in plerisque, fig. 4, 5, juniores compressæ, adultæ teretiunculæ, obtusæ, paululum divergentes.

CALYX bivalvis, valvulæ subæquales, acutæ, carinatae, ad margines purpureæ, fig. 6.

COROLLA bivalvis, valvulæ subæquales, exteriore majore, interiorem amplectente, trinerve, submucronatâ, ad margines purpureâ, interiore binerve, pallidiore, obtusa, paulo brevior, fig. 7.

NECTARIUM: SQUAMULÆ duæ, brevissimæ, latæ, truncatæ, emarginatæ, fig. 8.

STAMINA: FILAMENTA tria, capillaria; ANTHERÆ bifurcæ, purpureæ, fig. 11.

PISTILLUM: GERMEN minimum, glabrum, sub-ovatum; STYLI duo, ramosi, ad basin usque purpurei, fig. 9, 10.

ROOT perennial, fibrous, thick, whitish or brownish, crooked and villous.

STALK a foot, a foot and a half, or two feet high, somewhat bulbous at the base, upright, having only one knot, and that near the base, above naked and smooth.

LEAVES for the most part three or four, about a hand's-breadth in length, of a blueish-green colour, rather broad, long-pointed, stiffish, the lower ones flat, the upper ones somewhat rolled up, hairy at the edges, Membrane none, Sheath short and striated.

FLOWERS growing in a panicle.

PANICLE a hand's-breadth or more in length, branched, the branches closing together so as to form a kind of spike.

SPICULÆ containing two, three, and four flowers, but most commonly three, fig. 1, 2, 3, with a rudiment of a flower in most of them, fig. 4, 5, the young ones flattened, the full-grown ones roundish, obtuse, slightly diverging.

CALYX composed of two valves, the valves nearly equal, pointed, keeled, the edges purple, fig. 6.

COROLLA composed of two valves, the valves nearly equal, the outer one, which is largest, embracing the inner one, three-ribb'd, slightly pointed, the edges purple, the inner valve two-ribb'd, paler, obtuse, and a little shorter, fig. 7.

NECTARY: two very short, broad, truncated, emarginate SCALES, fig. 8.

STAMINA: three capillary FILAMENTS; ANTHERÆ forked at each end, and purple, fig. 11.

PISTILLUM: GERMEN very minute, smooth, and somewhat ovate; STYLES two, branched down to the bottom, and purple, fig. 9, 10.

Our readers, on perusing the above description, will quickly perceive, that this grass does not accord, in every respect, with the characters of a *Melica*; it has, in general, too many flowers: yet, as the essential part, the *rudimentum flosculi*, is found in most of the Spiculæ, it cannot, perhaps, be more judiciously arranged.

LINNÆUS, at different periods, appears to have entertained a different opinion of it: in his *Flora Laponica*, he considers it as a *Poa*; in his *Species Plantarum* and *Flora Suecica*, as an *Aira*; and, lastly, in his *Systema Vegetabilium*, makes it a *Melica*.

If the Spiculæ be examined when the plant is young, they are certainly very *Poa*-like, being pointed, flattened, and containing usually from three to five flowers; as they advance, their form alters, they become rounder, and more like the flowers of the *Aira aquatica*: if the *rudimentum flosculi* were wanting, it would be difficult to say with which of the two genera it should be placed; that being present, the difficulty vanishes, and we class it at once with the *Melica*.

Two striking peculiarities distinguish this grass: the stalk has only one knot, and that near its base; and not only its stamina, but its stigmata also, are of a deep purple colour.

MERRET's name of *Gramen Spica Lavendulæ*, is very expressive of its appearance when in flower.

It is a very common grass on wet moors and heaths, and flowers from July to the end of September; it is harsh and late, and therefore does not seem at all adapted to agricultural purposes; it varies greatly in size.

Mr. LIGHTFOOT, in his *Flora Scotica*, informs us, that in the Isle of Skie, the fishermen make ropes for their nets of this grass, which they find by experience will bear the water well without rotting. SCHEUCHZER says, that besoms are sometimes made of the straws.





*Melica carulea.*









*Spartium*  
*scoparium*



# SPARTIUM SCOPARIUM. COMMON BROOM.

SPARTIUM *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

*Stigma* longitudinale, supra villosum. *Filamenta* germini adhærentia.  
*Cal.* deorsum productus.

*Raii Syn.* ARBORES ET FRUTICES.

SPARTIUM *Scoparium* foliis ternatis solitariisque ramis inermibus angulatis. *Lin. Syst. Vegetab.*  
*p.* 644. *Sp. Pl.* *p.* 996. *Fl. Suec. n.* 633.

SPARTIUM foliis inferioribus ternatis hirsutis, superioribus simplicibus. *Haller hist. n.* 354.

GENISTA angulosa et scoparia. *Bauh. pin.* 395.

GENISTA cum rapo. *Dodon. Pempt. p.* 761. *Ger. emac.* 1311.

GENISTA vulgaris sive scoparia. *Park. Theat. p.* 228.

GENISTA angulosa trifolia. *I. B. I.* 388. *Raii Syn. p.* 474. Common Broom. *Hudson Fl.*  
*Angl. ed. 2. p.* 310. *Lightfoot Fl. Scot. p.* 382.

Frutex tripedalis ad orgyalem et ultra, ramosissimus,  
ramis erectis, virgatis, viridibus, angulatis,  
flexilibus, junioribus pubescentibus

FOLIA sæpius ternata, summis subinde solitariis,  
foliolis ovatis, acutis, pubescentibus, ciliatis,  
ciliis mollibus inflexis.

PETIOLI pubescentes, complanati.

FLORES lutei, maximi, laxè racemosi.

BRACTEÆ quatuor, obovatæ, inæquales, cruciatæ,  
obtusæ, ad basin pedunculorum.

PEDUNCULI solitarii, sæpius bini, raro terni, teretes,  
glabri, stipulâ minimâ utrinque instructi.

CALYX: PERIANTHIUM monophyllum, parvum,  
bilabiatum, sæpe purpureum, obsolete den-  
ticulatum, labiorum apicibus marcidis fuscis,  
*fig. 1.*

COROLLA papilionacea, pentapetala, *Vexillum* ob-  
cordatum, reflexum, maximum, *fig. 2.* *Alæ*  
longitudine carinæ, subovales, breviter pe-  
tiolatæ, *fig. 3.* *Carina* ampla et profunda,  
obtusè rostrata, *fig. 4.* dipetala, aut in duas  
partes facile separabilis, margine carinali  
villis connexo.

STAMINA: FILAMENTA decem, inferne in unum  
corpus coalita (hinc decandria non diadel-  
phia) affurgentes, inferioribus longioribus;  
ANTHERÆ oblongæ, crocæ, *fig. 5.*

PISTILLUM: GERMEN oblongum, hirsutum; STY-  
LUS subulatus, affurgens, demum spiraliter  
involutus ad apicem inferne canaliculatus,  
STIGMA terminale, minimum, capitatum,  
*fig. 6. auct. fig. 7.*

PERICARPIUM: LEGUMEN latum, compressum, ni-  
gricans, marginibus pilis mollibus ciliatis, *fig. 8.*

SEMINA plurima ad 20, minuta, subovata, lutescen-  
tia, nitida, *fig. 9.*

A Shrub from three to six feet high or more, very  
much branched, the branches upright,  
twiggy, green, angular, flexible, the young  
ones downy.

LEAVES most commonly growing by threes, upper-  
most ones sometimes singly, leaflets ovate,  
acute, downy, edged with soft hairs bend-  
ing inwards.

LEAF-STALKS downy, flattened.

FLOWERS yellow, very large, growing in loose  
racemi.

BRACTEÆ four, inversely ovate, unequal, cross-  
shaped, obtuse at the base of the flower-stalks.

FLOWER-STALKS single, oftener two, rarely three,  
round, smooth, furnished on each side with  
a very minute stipula.

CALYX: a PERIANTHIUM of one leaf, small, two-  
lipped, often purple, faintly toothed, ex-  
tremities of the lips withered and brown,  
*fig. 1.*

COROLLA papilionaceous, pentapetalous, *Standard*  
inversely heart-shaped, reflexed, very large,  
*fig. 2.* *Wings* the length of the keel, some-  
what oval, on short footstalks, *fig. 3.* *Keel*  
large and deep, beak blunt, *fig. 4.* composed  
of two petals, or at least easily separated into  
two parts, the edges being connected toge-  
ther at the keel with soft hairs.

STAMINA: ten FILAMENTS, below united into one  
body (hence of the class decandria rather  
than diadelphia) rising upwards, the lower-  
most ones longest; ANTHERÆ oblong,  
saffron-coloured, *fig. 5.*

PISTILLUM: GERMEN oblong, hirsute; STYLE  
tapering, rising upward, finally bent spirally,  
so as to form somewhat more than a circle,  
near the tip hollowed below; STIGMA ter-  
minal, very small, and forming a little head,  
*fig. 6. magnified, fig. 7.*

SEED-VESSEL a broad, flat, blackish POD, edged  
with soft hairs, *fig. 8.*

SEEDS numerous to 20, small, somewhat ovate,  
dingy yellow, glossy, *fig. 9.*

The common English Broom is one of the most ornamental shrubs we have, especially that variety of it, in  
which the calyx is purple, and the blossoms strongly tinged with orange; but even in its common state, such  
is the profusion of blossoms with which its branches are loaded in the summer, such the charming verdure of  
its twigs in the winter season, that it may be said to vie with any of the foreign ones, and to be equally  
deserving a place in all ornamental grounds.

It grows naturally in dry, sandy, barren soils, bears transplanting badly, but is most readily raised from seed.

It is not only in an ornamental point of view, that this plant deserves our notice, it claims our attention  
also as an useful plant in rural œconomy and medicine.

Though not so commonly used for besoms as the common Heath and Birch, it is preferred for many  
purposes; in the Northern parts of Great-Britain it is made use of for thatching cottages, corn and hay-ricks,  
also as a substitute for reeds in making fences or screens; and we have been credibly informed, that in some  
parts of Scotland, where coals are scarce, whole fields are sown with its seeds to form fuel.

Authors mention the flower-buds, just before they become yellow, as proper for pickling, in the manner  
of capers\*; the branches, as capable of tanning leather†, and of being manufactured into coarse cloth‡;  
the old wood, as furnishing the cabinet-maker with the most beautiful materials for veneering; and the tender  
branches, to be frequently mixed with hops for brewing§.



The twigs, when bruised, smell disagreeably; this may, perhaps, be one reason for their being generally rejected by cattle: the plant, however, affords nourishment to a great variety of insects; in particular, to the larvæ of several *Phalænæ* not described by LINNÆUS.

From the roots of this plant springs the Broom Rape, figured in a former number of this work.  
“ The leaves and stalks of broom have a nauseous bitter taste, which they give out by infusion, both to water and rectified spirit; and which, on gently inspissating the filtered liquors, remains concentrated in the extracts: the watery tincture is of a yellowish green or brownish, the spirituous of a dark green colour.  
“ They are accounted laxative, aperient, and diuretic; and in this intention have been often used by the common people in dropsies and other ferous disorders. Dr. MEAD relates a case of an hydropic person, who, after the paracentesis had been thrice performed, and sundry purgatives and diuretics had been tried without relief, was perfectly cured, by taking, every morning and evening, half a pint of a decoction of green broom tops, with a spoonful of whole mustard seed: by this medicine, the thirst was abated, the belly loosened, and the urinary discharge increased to the quantity of at least five or six pints a day.  
“ Infusions of the ashes of the plant in acidulous wines, have likewise been employed in the same intention, and often with good success. The virtue of this medicine does not depend, as some have supposed, on any of the peculiar qualities of the broom remaining in the ashes, but on the alkaline salt and earth, which are the same in the ashes of broom as in those of other vegetables, combined, wholly or in part, with the vinous acid. A solution even of the pure earthy part of vegetable ashes, made in vegetable acids, proves notably purgative and diuretic.

“ Of the seeds and flowers, the medicinal qualities are not well known. It is said, that the seeds, in doses of a dram and a half in substance, and five or six drams in decoction or infusion, prove purgative or emetic. Some report that the flowers also operate in the same manner; but LOBEL assures us, from his own observation, that they have been taken in quantity without producing any such effect: and I have known infusions of the flowery tops drank freely in some asthmatic cases, without any other sensible operation than a salutary increase of urine and expectoration. The seeds, slightly roasted, are used in some places as coffee.” LEWIS's *Mater. Med.* p. 318.

A variety of this plant, much more hoary than common, is accidentally met with; the most usual time of its flowering with us, is about the latter end of May or beginning of June.

THOMSON, whose observing eye rarely suffered any of the beauties of nature to escape him, has noticed the flowering of this shrub in the following passage, in which he describes the effect which the genial warmth of the season produces on the various animals:

“ While thus the gentle tenants of the shade  
“ Indulge their purer loves, the rougher world  
“ Of brutes below rush furious into flame  
“ And fierce desire. Thro' all his lusty veins  
“ The bull deep-scorch'd, the raging passion feels;  
“ Of pasture sick, and negligent of food,  
“ Scarce seen, he wades among the yellow broom;





# POA RETROFLEXA. REFLEXED MEADOW-GRASS.

POA *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

*Cal.* 2-valvis, multiflorus. *Spicula* ovata: valvulis margine scariosis acutiusculis.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *retroflexa* panicula diffusa, ramis post florescentiam retroflexis, spiculis sublinearibus subquinquefloris.

POA *distans* panicula ramis subdivisis, floribus quinquefloris: flosculis distantibus obtusis. *Lin. Syst. Vegetab. p.* 115. ?

AIRA aquatica var B. *Hudson Fl. Angl. ed. 2. p.* 34.

RADIX perennis, fibrosa.

ROOT perennial, and fibrous.

CULMI plures, spithamæi, pedales, aut sesquipedales, obliqui, foliosi, inferne subinfracti, teretes, læves.

STALKS several, a span, a foot or a foot and a half in length, oblique, leafy, slightly elbowed below, round and smooth.

FOLIA glauca, lævia, acuta, radicalia subconvoluta, caulina plana, erecto-patentia; *Ligula* brevis, obtusa, subtruncata, subinde bifida; *Vagina* lævis.

LEAVES glaucous, smooth, pointed, radical leaves somewhat rolled up, stalk-leaves flat, betwixt upright and spreading; *Membrane* short, obtuse, somewhat truncated, now and then bifid; *Sheath* smooth.

FLORES paniculati, panicula palmaris aut sesquipedalis, diffusa, ramis inæqualibus, ramosis, subflexuosis, tandem ad basin pertumidis et retro porrectis, inferioribus subquinis.

FLOWERS growing in a panicle, a hand's breadth or half a foot in length, spreading, the branches unequal, ramified, somewhat crooked, finally much swelled at the base, and stretched out backwards, the lowermost about five in number.

SPICULÆ sublineares, subquinquefloræ, nonnunquam penitus virides, at sæpius albo et purpureo pulchre variegatæ, *fig.* 1, 2, 3.

SPICULÆ somewhat linear, containing five flowers, more or less, sometimes entirely green, but more often prettily variegated with white and purple, *fig.* 1, 2, 3.

CALYX: *Gluma* bivalvis, valvulis ovatis, obtusis, concavis, inæqualibus, altero duplo brevior, *fig.* 4. auct.

CALYX: a *Glume* of two valves, the valves ovate, obtuse, hollow, unequal, one of them not more than half the length of the other, *fig.* 4. magnified.

COROLLA: bivalvis, valvulis subæqualibus, exteriore majore, concava, obtusiuscula, *fig.* 5, interiore plerumque bifida, ad lentem utrinque ciliata, *fig.* 6.

COROLLA: composed of two valves, the valves nearly equal, the outer one largest, concave, a little blunt, *fig.* 5, the inner one usually bifid, and, if magnified, edged on each side with hairs, *fig.* 6.

STAMINA: FILAMENTA tria, capillaria; ANTHERÆ parvæ, luteæ, *fig.* 7.

STAMINA: three capillary FILAMENTS; ANTHERÆ small and yellow, *fig.* 7.

PISTILLUM: GERMEN obovatum, *fig.* 8; STYLI duo, patentes, ad basin usque ramosi, *fig.* 9.

PISTILLUM: GERMEN inversely ovate, *fig.* 8: STYLES two, spreading, branched down to the bottom, *fig.* 9.

NECTARIUM: *Glumulae* duæ, ovato-acutæ, ad basin germinis, *fig.* 10.

NECTARY: composed of two small *Glumes*, ovate and pointed, at the base of the germen, *fig.* 10.

*Fig.* 11 exhibet spiculam speciminis siccati in qua flosculi remotiores et subtruncati.

*Fig.* 11 exhibits the spicula of a dried specimen, in which the flowers are further apart, and appear somewhat truncated at top.

It is rather matter of admiration, that this Grass should have escaped the notice of Mr. RAY, since it is common in pastures and by road sides on all our sea-coasts, at least where we have travelled; like the *Plantago maritima* and some other plants, it is not confined to maritime situations; for, to my great astonishment, I found it, July 1786, among the grassy herbage on the right-hand side of the horse-road leading up the hill to Hampstead in tolerable plenty.

Though, at first sight, it bears a near resemblance to the *Poa annua*, and for which I have no doubt but it is often mistaken, a discerning eye will readily perceive a difference at a distance, and a close examination will discover abundant matter to confirm it.

As it usually grows, it is considerably taller than the *Poa annua*, its leaves are narrower in proportion, and much more glaucous, its spiculæ also are much narrower as well as longer, and, of course, contain many more florets; these are for the most part prettily variegated with pale green and purple; but the grand character which distinguishes it from the *Poa annua*, and, as far as we have observed from all the other Poas, is to be drawn from the branches of the panicle; these, as the plant goes out of bloom, are reflected or stretched out backwards, so as sometimes to touch the culmus or main stem. On examining into the cause of this, I found it was effected by little tubercles at the base of the branches on their upper sides only, which increasing in size as the plant advanced in its flowering, forced them backwards.

The peculiarity of this character induced us to adopt a name expressive of it, notwithstanding we had strong reasons to suppose our plant the *Poa distans* of LINNÆUS, a term expressing very distantly indeed any character of the plant.

Mr. HUDSON gives a particular description of this Grass, but considers it as a variety only of the *Aira aquatica*; what could induce him to form such an opinion, is difficult to say, we can assure our readers, that six years culture has made no alteration in the appearance of the *Poa retroflexa*.

There does not appear to be sufficient merit in this Grass to recommend it for agricultural purposes. It flowers from June to September.





*Poa retroflera.*









*Chenopodium murale*



# CHEOPNODIUM MURALE. NETTLE-LEAVED GOOSEFOOT.

CHENOPODIUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

*Cal.* 5-phyllus, 5-gonus. *Cor.* o. *Sem.* 1. lenticulare, superum.

*Raii Syn. Gen.* 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHENOPODIUM *murale* foliis ovatis nitidis dentatis acutis, racemis ramosis nudis. *Lin. Syst. Vegetab.* p. 261. *Sp. Pl.* p. 318. *Fl. Suec.* 216.

ATRIPLEX *fylvestris latifolia*, acutius folio. *Bauh. Pin.* 119.

ATRIPLEX dicta *Pes anserinus alter f. ramosior.* *Bauh. hist.* 976.

ATRIPLEX *fylvestris latifolia altera.* *Ger. emac.* 328.

BLITUM *Pes anserinus dictum acutius folio.* *Raii Syn.* p. 154. ? The other Goosefoot. *Huds. Fl. Angl. ed. 2.* p. 105.

Tota planta gravem odorem spirat.

The whole plant smells disagreeably.

RADIX annua, fusiformis, albida, rigida, fibrillis plurimis patentibus instructa.

ROOT annual, tapering, whitish, rigid, furnished with numerous spreading small fibres.

CAULIS erectus, pedalis ad bipedalem, ramosissimus, subangulosus, inferne glaber, superne farinosus, plerumque viridis, sæpe purpureus aut lineis purpureis notatus.

STALK upright, one or two feet high, very much branched, slightly angular, below smooth, above mealy, most commonly green, but often wholly purple, or marked with purple lines.

RAMI alterni, pulverulenti.

BRANCHES alternate and mealy.

FOLIA alterna, petiolata, subovata, acuta, inæqualiter serrata, superne nitida, inferne pulverulenta, apicibus denticulorum rubicundis.

LEAVES alternate, standing on footstalks, subovate, pointed, unequally sawed, above glossy, beneath mealy, the tips of the teeth reddish.

PETIOLI superne canaliculati, longitudine foliorum.

LEAF-STALKS hollow above, the length of the leaves.

FLORES nunc herbacei, nunc purpurei, racemosi, racemis brevibus, nudis, ramosis, depressis, apice inflexis.

FLOWERS sometimes green, sometimes purple, growing in bunches or racemi, which are short, naked, branched, depressed, and bent in at the tip.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, carinatis, farina diaphana adspersis, persistentibus, marginibus membranaceis, albidis, *fig. 1.*

CALYX: a PERIANTHIUM of five leaves, the leaves ovate, concave, keeled, permanent, sprinkled with transparent meal, the edges membranous and whitish, *fig. 1.*

COROLLA nulla.

COROLLA wanting.

STAMINA: FILAMENTA quinque, alba, calyce paulo longiora; ANTHERÆ majusculæ, ochroleucæ, didymæ, *fig. 2.*

STAMINA: five white FILAMENTS, a little longer than the calyx: ANTHERÆ largish, yellow, and double, *fig. 2.*

PISTILLUM: GERMEN orbiculatum: STYLI duo, brevissimi, minimi, fere inconspicui, *fig. 3.*

PISTILLUM: GERMEN round and flat: STYLES two, very small and short, almost inconspicuous, *fig. 3.*

The leaves of this species of *Chenopodium* have some small resemblance to those of the great Stinging-Nettle, hence we have given it the English name of *Nettle-leaved*, in preference to that of *wall* (*murale*) to which, from its place of growth, with us at least, it has little pretensions, as it is usually found on dunghills, and on banks by road sides.

It grows plentifully on most of the great roads leading from the metropolis; we have seen it in very great abundance during the late autumn on the Edgware road. It flowers from August to October.

The whole plant is sometimes entirely green, and sometimes tinged with red.

It is most strikingly distinguished from the other species by the particular form of its racemi, or flower branches, which are short and spread out widely, so as to give them a flat or depressed appearance, the tops somewhat curled in; in the *rubrum* and *urbicum*, the species most liable to be mistaken for it, the racemi are perfectly upright; its glossy leaves and unpleasant smell contribute also to point it out.

Like most of the other plants of this genus, it affords plenty of seeds, which assist in supporting the numerous tribe of small hard-billed birds.







# CHÆROPHYLLUM TEMULUM. SMALL COW-PARSLEY.

CHÆROPHYLLUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

*Involucrum* reflexum, concavum. *Petala* inflexo-cordata.  
*Fructus* oblongus, lævis.

*Raii Syn. Gen.* 11. UMBELLIFERÆ HERBÆ.

CHÆROPHYLLUM *temulum*, caule scabro: geniculis tumidis. *Lin. Syst. Vegetab.* p. 288. *Spec. Plant.* p. 370. *Fl. Suec.* n. 258.

MYRRHIS foliis hirsutis, laciniis obtusis, caule geniculato. *Haller hist.* n. 750.

CHÆROPHYLLUM *fylvestre*. *Bauh. Pin.* 152.

CEREFOLIUM *fylvestre*. *Ger. emac.* 1038. *Park.* 915.

ANTHRISCUS *Plinii* quibusdam, femine longo *Cicutariæ* aut *Chærophylly*. *I. B. III.* 2. 70. *Raii Syn.* p. 207. *Wild Chervil.* *Hudson Fl. Angl. ed.* 2. p. 125. *Lightfoot Fl. Scot.* p. 167.

RADIX biennis, subramosa, albida.

CAULIS bipedalis et ultra, erectus, ramosus, teres, solidus, ad genicula fragiles, aut penitus atropurpureus, aut maculis atropurpureis adspersus, brevissimis pilis vestitus, scabriusculus, geniculis tumidis et manifeste striatis.

FOLIA radicalia et ramea ex petiolo vaginante orta, hirsutula, mollia, flaccida, duplicato-pinnata, pinnis subovatis, obtusis et lobato-incisis.

UMBELLÆ florentes erectæ, aut in latus parum inclinatæ, antea valde nutantes.

UMBELLA *universalis* componitur ex radiis numero variis, a quinque ad duodecim, exterioribus longioribus, *partialis* radii numero fere duplicantur.

INVOLUCRUM *universale* plerumque nullum, *partiale* constat foliolis plus minus senis, lanceolatis, acutis, reflexis.

COROLLA *universalis* subuniformis, flosculis disci raro nisi in fero florentibus abortientes; *propria* petalis quinque, albis, inflexo-cordatis, exterioribus paulo majoribus, *fig. 1. auct.*

STAMINA: FILAMENTA quinque alba: ANTHERÆ albidæ, *fig. 2.*

PISTILLUM: GERMEN inferum; STYLI duo reflexi; STIGMATA obtusa, *fig. 3.*

SEMINA oblonga, glabra, fusca, acuta, intus concava, extus obsolete et obtuse quinque sulcata, angulis pallentibus, *fig. 4.*

ROOT biennial, somewhat branched, and whitish.

STALK two feet or more in height, upright, branched, round, solid, brittle at the joints, either wholly of a dark purple, or spotted with the same colour, covered with very short hairs, and roughish to the touch, the joints swelled and obviously striated.

LEAVES next the root and those of the branches furnished with a foot-stalk which has a sheath at bottom, slightly hirsute, soft, flaccid, doubly pinnated, the pinnæ somewhat ovate, obtuse, and cut into lobes.

UMBELS when in flower upright, or inclined a little to one side, when young drooping very much.

UMBEL: the *universal* one is composed of rays which vary in number from five to twelve, the outermost longest, the *partial* umbel has almost twice as many.

INVOLUCRUM: the *general* involucre is for the most part wanting, the *partial* one consists of six leaves, more or less, which are lanceolate, pointed, and turned back.

COROLLA: the *universal* corolla somewhat uniform, the florets of the disk rarely abortive, unless in those which flower late, each *individual* composed of five white petals, which, having the tip bent inward, become heart-shaped, the outermost ones rather largest, *fig. 1. magn.*

STAMINA: five white FILAMENTS; ANTHERÆ whitish, *fig. 2.*

PISTILLUM: GERMEN beneath the flower; STYLES two, reflexed; STIGMATA blunt, *fig. 3.*

SEEDS oblong, smooth, brown, pointed, on the inside hollow, on the outside faintly and bluntly marked with five grooves, the angles paler, *fig. 4.*

The *Chærophyllyum temulum* is nearly as common a plant as the *fylvestre*, flowers a month or six weeks later, and is more confined to sheltered situations; it delights to grow under hedges, but is rarely met with in open pastures.

The roughness, deep purple colour, and swelled joints of the stalk, readily distinguish it not only from the *fylvestre*, but from our other umbelliferous plants; the stalk is also frequently spotted with purple, and hence the ignorant, who often distinguish the Hemlock by that character alone, may be led to mistake it for that plant; we may remark also, that the umbels, when young, droop remarkably.

Why LINNÆUS should give it the name of *temulum*, unless from the last-mentioned circumstance, we know not: HALLER, who read almost every book on Botany and Medicine, is silent as to its effects.

The seeds afford the best distinction of the genus *Chærophyllyum*, the *general involucre* being with us for the most part wanting, both in this species and the *fylvestre*.



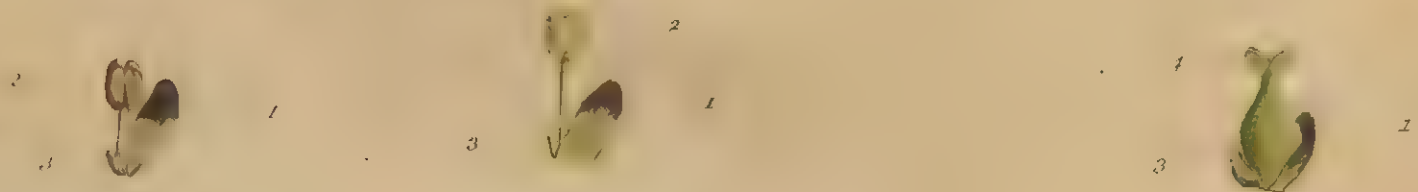


*Chierophyllum temulum*









*Salix monandra.*



# SALIX MONANDRA. BITTER WILLOW.

SALIX *Lin. Gen. Pl.* DIOECIA DIANDRIA.

MASC. *Amenti squamæ. Cor. o. Glandula* baseos nectariferâ.

FÆM. *Amenti squamæ. Cor. o. Stylus 2-fidus. Caps. 1-locularis, 2-valvis. Sem. papposa.*

*Raii Syn. Gen. 28. ARBORES ET FRUTICES.*

SALIX *monandra* foliis ferratis, glabris, lineari-lanceolatis, superioribus obliquis. *Hoffman hist. Salic. p. 18.*

SALIX *purpurea* foliis ferratis glabris lanceolatis: inferioribus oppositis. *Lin. Syst. Vegetab. p. 879. Sp. Pl. p. 1444. Fl. Succ. n. 884.*

SALIX *Helix* foliis ferratis glabris lanceolato-linearibus: superioribus oppositis obliquis. *Lin. Syst. Vegetab. p. 879. Sp. Pl. 1444.*

SALIX *monandra*, foliis glabris, lineari-lanceolatis, ferratis, superne conjugatis, julis tomentosis. *Hall. hist. n. 1640.*

SALIX *purpurea. Scopoli Fl. Carn. n. 1209. DIAGN. squamæ monandræ.*

SALIX *monandra. Arduin. Memor. 1. Spec. 67. tab. 11.*

SALIX *humilior* foliis angustis subcæruleis ex adverso binis. *Raii Syn. 448. The yellow dwarf Willow.*

SALIX *Helice Theophrasti Lugdun. p. 277. Hudf. Fl. Angl. ed. 2. p. 427. Lightfoot Fl. Scot. p. 597.*

FRUTEX mediocris, debilis, ramosus, in arbusculum nobiscum sæpe excrefcens, in septentrionali parte Angliæ multo humilior.

RAMI *tenués, teretes, viminei, tenacissimi, nitidi, cortice cinereo, olivaceo, feu purpurafcente, nobiscum raro intenfè purpureo.*

FOLIA *nunc oppofita, nunc alterna, idque in eadem planta, petiolata, lanceolata, verfus apicem latiora, apice acuta, bafi obtufa, femunciam circiter lata, multo etiam latiora, fig. 6. et anguftiora occurrunt, margine nunc undique ferrata, nunc fuperne tantum, etiam integerima, lævia, fuperne e cæruleo viridia, fubtus glauca, idque femper quoad obfervavimus, avenia, nervo medio albido, glandulis deftituta, fapore amariffimo.*

PETIOLUS *brevis, bafi latior.*

AMENTA *mafcula plurima, fubterminalia, nunc oppofita, idque alterne, nunc alterna, fubfefilia, pollicaria, cylindræa, compacta, erectiuscula, sæpe incurvata, primum e rufo-nigricantia, lanugine incana, exfertis antheris pulchre aurantiaca; squamæ fubrotundæ, concavæ, pilofæ, ad medium ufque nigræ, intus sæpe rubellæ, demum reflexæ, fig. 1.*

STAMEN: FILAMENTUM *unicum, squamâ duplo longius, filiforme, pilofum; ANTHERA majuscula, fig. 2, quadrangula, quadriloba, primo aurantiaca, dein flava, demum nigricans.*

NECTARIUM: *Glandula truncata, emarginata, flavescens, feffile, fig. 3.*

AMENTA *feminea, mafculis quoad formam fimilia, at flavefcentia, et minus contorta, fig. 5.*

PISTILLUM: GERMEN *ovatum, fubglobofum, feffile; STYLUS vix ullus; STIGMA bilabiatum, flavescens, labiis emarginato bifidis, demum e rufo nigricantibus, fig. 4.*

A SIIRUB of a middling fize, weak, branched, with us often growing up into a fmall tree, in the North of England of much humbler growth.

BRANCHES *flender, round, twiggy, extremely tough, glossy, the bark afh-coloured, olive, or purplish, feldom of a deep purple with us.*

LEAVES *now oppofite, now alternate, and that in the fame plant, ftanding on footftalks, lanceolate, broadest towards the tip, pointed at the end, obtufe at the bafe, about half an inch in breadth, but much broader, fig. 6. and much narrower leaves occur, the edge fometimes ferrated throughout, fometimes above only, even perfectly entire, fmooth, above of a blueifh green colour, beneath glaucous, and that always as far as we have obferved, veinlefs, the midrib whitifh, without glands, and of an extremely bitter tafte.*

LEAF-STALK, *fhort, broadest at the bafe.*

CATKINS of the *male plant* numerous, fomewhat terminal, fometimes oppofite, and that alternately fo, fometimes alternate, nearly feffile, about an inch in length, cylindrical, compact, nearly upright, often bowed, at first of a reddifh black colour, covered with a grey down, when the antheræ put forth, of a beautiful orange; *scales* roundifh, concave, hairy, black as far as the middle, often reddifh withinfide, finally reflexed, fig. 1.

STAMEN: one FILAMENT twice the length of the scale, filiform, hairy; ANTHERA largifh, fig. 2, quadrangular, *compofed of four lobes*, at first orange-coloured, then yellow, lafly blackifh.

NECTARY: a Gland truncated, emarginate, yellowifh, and feffile, fig. 3.

CATKINS of the *female*, fimilar in fhape to thofe of the male, but yellowifh and lefs diftorted, fig. 5.

PISTILLUM: GERMEN *ovate, almoft globular, feffile; STYLE fcarcely any; STIGMA forming two lips, yellowifh, the lips flightly bifid, finally of a reddifh black colour, fig. 4.*



The Willows are a tribe of plants, not less distinguished for their great utility in rural economy, than for the difficulty which has hitherto attended the ascertaining of the several species: it will, perhaps, be found, that this difficulty is not peculiar to the Willows, but that a vast many other plants are subject to an equal inconstancy of appearance from similar causes: we are not to be disheartened in our researches, because we meet with difficulties, they ought rather to incite us to a more diligent examination, and if we do not succeed at one time, we probably shall at another; we have found, by experience, that the eye does not at all times possess the same degree of acuteness, and that the character of a plant, which, at one period, has been overlooked, at another, has formed its most prominent feature.

Impressed with these ideas, we set about investigating the Willows, with the greater pleasure, indeed, as we find, on examining them, that the parts of fructification, hitherto but little noticed, are capable of throwing a great light on the subject: the stamina in some, and the pistilla in others, differ in their appearance beyond expectation. Thus the male plant of the present species, if every other character were wanting, would be distinguished when in flower from our other Willows, by its stamina alone; each scale of the catkin produces one filament only; hence, according to Linnean usage, it is called monandrous: but, it is very remarkable, that though there is only one filament, it supports two antheræ, and hence, in strict propriety, it may be considered as diandrous. The antheræ, before they open, are of a bright orange colour, and impart to the catkin an appearance strikingly beautiful; the female catkins are similar in shape, but want the brilliancy of the male.

Unfortunately the flowering period in the Willows is of short duration; during the greatest part of the summer, we have no flowers to assist us in our investigations, and even during that period, it frequently happens, especially in the cultivated Willows, which are usually raised from cuttings, that we can discover one sex only; it is not so, indeed, in those Willows which are more in a state of nature, yet, when the flowering is over, size, mode of growth, leaves, stipulæ, or some other part of the plant, will generally afford a good specific character.

The present species, when out of bloom, is particularly distinguished by the length, as well as delicate slenderness of its twigs, and its subglaucous spurge-like leaves, but, above all, by their extreme bitterness when chewed, it is for this reason we have called it the *bitter Willow*.

These several characters, which are not liable to vary, and some of which are always present, will, if in the least degree attended to, readily discriminate this species. The leaves of most of the Willows are unfortunately subject to a great diversity of appearance from a variety of causes; those of the monandra are by no means exempt from this inconstancy of appearance; they vary greatly, both in size and breadth, and still more in the notchings of the leaves (see the description) the stalks also vary greatly in colour, being sometimes almost yellow: the leaves on the summits of the twigs are sometimes found towards the end of August, of a brilliant red colour, which produces a most charming effect; this singularity is, however confined to particular plants: the tops of the branches are sometimes found expanded in this Willow into little squamous heads, somewhat resembling roses, whence, by some, it has been called *rose Willow*; this is the effect of an insect, and, of course, accidental.

The *salix monandra* grows sparingly in the neighbourhood of London, it is found most commonly in hedges, sometimes in other grounds, where it is accidentally introduced; in some parts of the North of England, there is no Willow more common; it is the earliest in bloom of any of the Willows we are acquainted with, flowering in mild seasons, by the end of February, usually before the *Caprea*.

The extreme bitterness of the leaves and twigs of this species, renders it very valuable for many purposes. When used as a band or withe, it is never eaten by vermin; nor, when formed into a hedge, is it browsed on by cattle; even insects prey on it much less readily than on the other species. In some parts of Yorkshire, its twigs are used for making the finest sorts of basket-work; and, from the observations we have made, we should think it might be advantageously cultivated for such purposes. By way of experiment, we one year planted a row of cuttings of all the common Willows, and were surprised to find, that the very longest one-year's shoot was that of the bitter Willow, it exceeded even that of the Osier (*Salix viminalis*) which was the next longest.

The bark of some of the Willows has been used as a substitute for the Peruvian Bark in the cure of agues; that of the present species, from its extreme bitterness, may probably prove more efficacious.

The leaves of this plant become of a blueish black colour in drying.

Professor HOFFMAN, who has published some very accurate figures and descriptions of the Willows, indisputably proves, that the *purpurea* and *helix* of LINNÆUS are one and the same species; he, therefore, considering them as such, rejects both those names, and adopts that of ARDUINI; concurring, from the most perfect conviction, in opinion with the learned Professor, we follow him in this instance of reform.







*Nictotia glauca.*



# DATURA STRAMONIUM. THORN-APPLE.

DATURA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

*Cor.* infundibuliformis, plicata. *Cal.* tubulosus, angulatus, deciduus. *Cal.* f. 4-valvis.

*Raii Syn. Gen.* 16. HERBÆ BACCHIFERÆ.

DATURA *Stramonium* pericarpis spinosis erectis ovatis, foliis ovatis glabris. *Lin. Syst. Vegetab.* p. 220. *Sp. Pl.* p. 255. *Fl. Suec.* n. 198.

STRAMONIUM foliis angulosis, fructu erecto, muricato, calyce pentagono. *Haller hist.* n. 586.

STRAMONIUM *fœtidum.* *Scopoli Fl. Carniol.* n. 152.

SOLANUM *fœtidum* pomo spinoso oblongo, flore albo. *Bauh. Pin.* 164.

STRAMONIUM spinosum. *Ger. emac.* 349.

SOLANUM pomo spinoso, oblongo, flore calathoides Stramonium vulgo dictum. *Raii Syn.* 256. *Hudsoni Fl. Angl. ed. 2.* p. 92.

RADIX annua, ramosa, albida.

CAULIS variæ altitudinis pro ratione soli, pedalis, ad sepedalem; teres, glaber, late diffusus, ramulosus, ramis dichotomis, minutim pubescentibus.

FOLIA e dichotomia caulis et ramorum, solitaria, vix spithamea, petiolata, ovata, acuta, utrinque glabra, superne saturate viridia, inferne et ad margines pallidiora, nervis robustis, subalternis, margine undique inæqualiter sinuato-dentata, uno latere per petiolum longius extenso.

PETIOLI teretes, pubescentes, foliis breviores, superne obsolete canaliculati.

FLORES solitarii, e dichotomia caulis, una cum foliis egredientia, breviter pedunculati, erecti.

CALYX: PERIANTHIUM monophyllum, oblongum, tubulatum, ventricosum, dilute viridescens, quinquangulare, quinque-dentatum, deciduum horizontaliter prope basin, parte remanente, orbiculata, persistente.

COROLLA monopetala, infundibuliformis, nivea, *Tube* viridescens, pentagonus, calyce brevior; *Limbus* basi nervosus, erecto-patulus, quinquangularis, quinqueplicatus, quinque-dentato-acuminatus, *fig.* 1.

STAMINA: FILAMENTA quinque, subulata, inferne tubo corollæ adnata, superne libera; ANTHERÆ ovali-lineares, erectæ, infidentes, e fusco-lutescentes, *fig.* 2.

NECTARIUM: *Glandula* crenata, annularis, ad basin germinis, *fig.* 3.

PISTILLUM: GERMEN superum, subconicum, undique hispidum; STYLUS filiformis, albus, superne paulo crassior, longitudine staminum. STIGMA crassiusculum, obtusum, bilamelatum, *fig.* 4, 5, 6.

PERICARPIUM: CAPSULA spinosa, subovata, bilocularis, quadrivalvis, basi calycis imposita, *fig.* 7.

SEMINA numerosa, subreniformia, nigricantia.

ROOT annual, branched, whitish.

STALK various in its height, according to the soil in which it grows, rising from one to six feet, round, smooth, spreading widely, branched, branches forking, and covered with a fine down.

LEAVES springing from the forking of the stalk and branches, single, scarcely six inches long, standing on footstalks, ovate, pointed, smooth on both sides, above of a deep green colour, beneath and on the edges paler, ribs strong, somewhat alternate, the edge through its whole extent unequally sinuated and toothed, extending farther down the footstalk on one side than on the other.

LEAF-STALKS round, downy, shorter than the leaves, above faintly channelled.

FLOWERS single, proceeding together with the leaves from the forking of the stalk, standing on short footstalks and upright.

CALYX: a PERIANTHIUM of one leaf, oblong, tubular, bellying out, of a pale green colour, having five angles and five teeth, separating horizontally near the base, the remaining part orbicular and permanent.

COROLLA monopetalous, funnel-shaped, white, *Tube* greenish, five-cornered, shorter than the calyx; *Limb* ribb'd at the base, upright and spreading, five-cornered, with five plaits and five long pointed teeth, *fig.* 1.

STAMINA: five FILAMENTS, tapering, below attached to the tube of the corolla, above loose; ANTHERÆ betwixt oval and linear, upright, sitting, of a brownish yellow colour, *fig.* 2.

NECTARY: a circular notched *Gland* at the base of the germen, *fig.* 3.

PISTILLUM: GERMEN above the calyx, somewhat conical, hispid; STYLE filiform, white, thickened a little above, the length of the stamina. STIGMA thickish, obtuse, and composed of two lamellæ, *fig.* 4, 5, 6.

SEED-VESSEL: a CAPSULE, thorny, subovate, of two cavities, and four valves, placed on the base of the calyx, *fig.* 7.

SEEDS numerous, somewhat kidney-shaped and blackish.

The Thorn-apple is found occasionally in the environs of London, on dunghills, in cultivated ground, and amongst rubbish; both Mr. RAY and Mr. HUDSON place it amongst the British plants, regarding it at the same time as a doubtful native; following their example, we have figured it in the *Flora Londinensis*, induced thereto from the additional consideration of its being a poisonous plant, and, as such, necessary to be known to our readers.

That it is a native of America, we have the most indubitable proofs: in the earth brought with plants from various parts of that extensive country, we are sure to have the Thorn-apple come up, which we shall not wonder at, after perusing the following extract from KALM's Travels into North-America. "The *Datura Stramonium* grows in great quantities in all the villages; its height is different according to the soil it is in: for, in a rich soil, it grows eight or ten feet high; but, in hard and poor ground, it will seldom come up to six inches. This *Datura*, together with the *Phytolacca*, or American Nightshade, grow here in those places near the gardens, houses, and roads, which in Sweden are covered with Nettles and Goosefoot, which European plants are very scarce in America; but the *Datura* and *Phytolacca* are the worst weeds here, nobody knowing any particular use of them."

There



There is great reason to suppose, that it is also a native of some parts of Europe and Asia.

Authors universally agree in attributing poisonous qualities to the Thorn-apple.—BERGIUS, a modern writer on the Materia Medica, relates, that the narcotic effluvia of the fresh plant affected him so powerfully as he was describing it, that with the smell, and chewing a bit of the plant, he became slightly intoxicated, as if unaccustomed to tobacco he had inhaled its fumes.

A decoction of the herb, seed-vessels, or seeds, have been found to produce different effects in different constitutions, but the symptoms most commonly attendant on taking this plant, are light-headedness, profound sleep, insanity, madness, convulsions, palsy of the limbs, cold sweats, vehement thirst, and tremblings.

HALLER mentions a case in which taking of the seeds proved fatal; they had been administered for those of *Nigella*.

The Chinese are forbid by law from putting it into fermented liquors, with a view to intoxicate.

As the most active poisons, in proper doses skilfully administered, frequently prove efficacious in removing obstinate diseases; so this, as well as several others, has been recommended for such purpose. Dr. STORK, of Vienna, first proposed it as a remedy for those very diseases it is capable of exciting.

An extract made from the expressed juice of the leaves, is acrid and saline to the taste, and yields crystals of nitre on standing. This preparation, given in doses of from one to five grains, twice or thrice a day, is said to be a very powerful remedy in various convulsive and spasmodic diseases, epilepsy and mania. The accounts of other practitioners have confirmed that of the first introducer, and it has been received into some pharmacopeias. An ointment prepared from the leaves, has been found to give ease in external inflammations and hemorrhages.

Emetics and purgatives give the speediest relief in cases where the plant has been inadvertently eaten, which it is sometimes necessary frequently to repeat, as some of the seeds have been found to lodge a considerable time in the stomach.







*Scaevola* *Scaevola*



# SISYMBRIUM NASTURTIUM. WATER-CRESS.

SISYMBRIUM *Lin. Gen. Pl.* TETRADYNAMIA SILIQUOSA.

*Silicula dehiscens valvulis rectiusculis. Cal. patens. Cor. patens.*

*Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

SISYMBRIUM *Nasturtium* filiquis declinatis, foliis pinnatis, foliolis subcordatis. *Lin. Syst. Vegetab. p. 594. Sp. Pl. 916. Fl. Suec. n. 592.*

SISYMBRIUM foliis pinnatis, pinnis subrotundis, brevibus racemis. *Haller hist. 482.*

SISYMBRIUM *Nasturtium. Scopoli Fl. Carn. n. 821.*

NASTURTIUM aquaticum supinum. *Bauh. Pin. 104.*

SISYMBRIUM Cardamine, seu Nasturtium aquaticum. *I. B. II. 884.*

NASTURTIUM aquaticum vulgare. *Park. 1329.*

NASTURTIUM aquaticum seu Cratevæ fium. *Ger. emac. 257. Raii Syn. p. 300. Water-Cresses. Hudson Fl. Angl. ed. 2. p. 296. Lightfoot Fl. Scot. p. 350.*

NASTURTIUM aquaticum foliis minoribus præcocius. Early flowering Water-Cresses with smaller leaves. *Raii Syn. 301.*

NASTURTIUM aquaticum pinnulis paucioribus. *Raii Syn. p. 301.*

RADIX annua, fibrosissima, fibris albidis.

CAULES plures, ad basin plerumque repentes, sub-  
erecti, pedales, bipedales et ultra, purpuraf-  
centes, angulosi, fulcati, ramosi, glabri, fis-  
tulosi.

FOLIA caulina pinnata, semi-amplexicaulia, glabra,  
pinnis trium seu quatuor parium, oppositis,  
ovatis, obtusis, submarginatis, obtuse den-  
tatis, sessilibus, externa rotundiore ad apicem  
sæpe attenuata; axillis radices agentibus;  
radicalia omnia rotundiora.

FLORES parvi, albi, numerosi, racemosi, racemis  
erectis.

PEDUNCULI primo erecti, demum patentes, subde-  
clinati, filiquis breviores.

CALYX: PERIANTHIUM 4-phyllum, foliolis ob-  
longis, concavis, obtusis, erectis, flavescenti-  
bus, *fig. 1.*

COROLLA: PETALA 4, subrotunda, alba, demum  
purpurascens, *fig. 2.*

STAMINA: FILAMENTA 6, quorum duo breviora,  
primo ex albedo virescentia, demum purpurea;  
ANTHERÆ flavæ, *fig. 3.*

PISTILLUM: GERMEN teres, virescens, tandem pur-  
pureum; STYLUS brevissimus, vix ullus;  
STIGMA capitatum, *fig. 4.*

SILIQUÆ unciales, sursum subcurvatæ, patentes, sub-  
declinatæ feminibus protuberantibus turgidæ.

ROOT annual, extremely fibrous, fibres whitish.

STALKS numerous, usually creeping at the base,  
nearly upright, a foot, two feet, or more, in  
height, purplish, angular, grooved, branched,  
smooth, and hollow.

LEAVES of the stalk pinnated, half embracing the  
stalk, smooth, the pinnæ or leaflets consist-  
ing of three or four pair, opposite, ovate,  
obtusely, with a slight indentation at the end,  
bluntly toothed, sessile, the end leaflet rounder  
than the others, often running out to a point,  
the alæ of the leaves putting forth roots, and  
all the radical leaves roundish.

FLOWERS small, white, numerous, growing in ra-  
cemi which are upright.

FLOWER-STALKS at first upright, finally spread-  
ing or a little depending, shorter than the  
pods.

CALYX: a PERIANTHIUM of four leaves, which are  
oblong, concave, obtuse, upright, and yel-  
lowish, *fig. 1.*

COROLLA: 4 PETALS, roundish, white, finally of  
a purplish hue, *fig. 2.*

STAMINA: 6 FILAMENTS, of which two are shorter  
than the rest, at first of a greenish white co-  
lour, lastly purple; ANTHERÆ yellow, *fig. 3.*

PISTILLUM: GERMEN round, greenish, finally  
purple; STYLE very short, scarce any;  
STIGMA forming a little head, *fig. 4.*

SEED-PODS, about an inch in length, bent a little  
upwards, spreading, slightly depending, tur-  
gid with seeds which protuberate.

Most people are acquainted with the leaves of the Water-cress, few comparatively with the plant in flower; to render their knowledge of it complete, we have represented it in both states.

It is a plant common not only to Europe but America, grows spontaneously in rivulets and watery ditches, and flowers in June, July, and August.

It varies in its appearance from several causes; the leaves, if growing in the shade, are of a green colour, if exposed to the sun, purplish brown; they rarely vary in their shape, yet we have seen instances of their being considerably elongated by growing in a stream where the current has been rapid; the alteration produced on the leaves of many other plants from the same cause, is well known to Botanists: in this state there is a possibility that the leaves, by mistake, may be eaten for those of the creeping Water-parsnep (*Sium nodiflorum*) which usually grows with it; if by accident they should, no great danger is to be apprehended, as there are no instances on record of that plant's being poisonous; to avoid, however, any alarm from such a circumstance, those who are in the practice of eating Water-cresses, should observe, that the leaves are nearly round, and that they have the cress-like taste, the leaves of the Water-parsnep are not only long and pointed, but sawed on the edges, they are also of a much paler colour, and have a very different taste.

RAY mentions two other species of Water-cress, which can only be considered as mere local varieties.

" This



" This plant has of late years been generally used as a salad-herb in the spring of the year, and is by many preferred to all other sorts of salads, for its agreeable warm bitter taste, and being accounted an excellent remedy for the scurvy and to cleanse the blood, as also a good diuretic, it has greatly obtained a preference to most other sorts for winter and spring use with many people. This is generally gathered in the ditches and other standing waters near London, to supply the markets; but whoever has a mind to cultivate it, may easily do it, by taking some of the plants from the places of their natural growth early in the spring, being careful to preserve their roots as entire as possible and plant them into mud, and then let the water in on them by degrees; when they have taken root, they will soon flourish and spread over a large compass of water: they should not be cut the first season, but suffered to run to seed, which will fall into the water, and furnish a sufficient supply of plants afterwards; but where the water is so deep that it will not be easy to plant them; the best method will be, to get a quantity of the plants, just as their seeds are ripening, and throw them on the surface of the water, where they are designed to grow, and their seeds will ripen and fall to the bottom, where they will take root and produce a sufficiency of these plants." MILLER'S *Gard. Dict.*

The leaves of the Water-cress have a moderately pungent taste, and when rubbed between the fingers, emit a quick penetrating smell, like that of mustard seed, but much weaker. Their pungent matter is taken up both by watery and spirituous menstrua, and accompany the aqueous juice, which issues copiously on expression; it is very volatile, so as to rise in great part in distillation with rectified spirit as well as with water, and almost totally to exhale in drying the leaves, or inspissating by the gentlest heat, to the consistence of an extract, either the expressed juice, or the watery or spirituous tinctures. Both the inspissated juice and the watery extract, discover to the taste a saline impregnation, and, in keeping, throw up crystalline efflorescences to the surface. On distilling with water considerable quantities of the herb, a small proportion of a subtle, volatile, and very pungent essential oil is obtained.

This herb is one of the milder acrid aperient antiscorbutics, of the same general virtues with the Cochlearia, but considerably less pungent, and, in a great measure, free from the peculiar flavour which accompanies that plant. HOFFMAN has a great opinion of it, and recommends it as of singular efficacy for strengthening the viscera, opening obstructions of the glands, promoting the fluid secretions, and purifying the body of humours: for these purposes, the herb may be used as a dietetic article, or the expressed juice, taken in doses of from one to four ounces twice or thrice a day. LEWIS'S *Materia Medica*.





# THLASPI ARVENSE. PENNY-CRESS.

THLASPI *Lin. Gen. Pl.* TETRADYNAMIA SILICULOSA.

*Silicula emarginata, obcordata, polysperma, valvulis navicularibus, marginato-carinatis.*

*Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

THLASPI *arvense* filiculis orbiculatis, foliis oblongis dentatis glabris. *Lin. Syst. Veget. ed. 14. p. 587. Spec. Pl. 901. Fl. Suec. 574.*

NASTURTIIUM filiquis orbiculatis, planis, foliis oblongis, dentatis, glabris. *Hall. Hist. 511.*

THLASPI *arvense*. *Scop. Fl. Carn. n. 810.*

THLASPI *arvense* filiquis latis. *Bauh. p. 105.*

THLASPI *Dioscoridis. Ger. emac. 262. Drabæ folio. Park. 836. Raii Syn. 305. Treacle-Mustard. Penny-Cress. Hudf. Fl. Angl. 281. Lightfoot Fl. Scot. 340.*

RADIX annua, fusiformis, subramosa, lignosa, al-bida.	ROOT annual, tapering, somewhat branched, woody, and whitish.
CAULIS pedalis et ultra, erectus, multangulus, tere-tiusculus, superne ramosus, ramis paucis, caule brevioribus, erectis, subarcuatis.	STALK a foot or more in height, upright, multangu-lar, roundish, above branched, the branches few, shorter than the stalk, upright, bending a little inwards.
FOLIA alterna, oblonga, obtusiuscula, remote den-tata, dentibus apice albidis, basi sagittata, supra viridia, subtus glaucescentia.	LEAVES alternate, oblong, a little blunt, distantly toothed, the teeth whitish at the tip; arrow-shaped at the base, above green, beneath somewhat glaucous.
FLORES racemosi, parvi.	FLOWERS small, growing in racemi.
PEDUNCULI alterni, fere horizontales, uniflori.	FLOWER-STALKS alternate, nearly horizontal, one-flower'd.
CALYX: PERIANTHIUM tetraphyllum; foliolis ovatis, concavis, acutiusculis, margine alba, membranacea, fig. 1.	CALYX: a PERIANTHIUM of four leaves, the leaves ovate, concave, somewhat pointed, the edge white, and membranous, fig. 1.
COROLLA: PETALA 4, calyce duplo longiora, re-tusa, alba, fig. 2. auct. fig. 3.	COROLLA: 4 PETALS, twice the length of the ca-lyx, very slightly notched at the end, and white, fig. 2. magnified, fig. 3.
STAMINA: FILAMENTA sex, subulata, albida, duo breviora, ANTHERÆ flavæ, minutæ, fig. 4. auct. fig. 6.	STAMINA: SIX FILAMENTS, tapering, whitish, two shorter than the rest; ANTHERÆ yellow and minute; fig. 4. magn. fig. 6.
PISTILLUM: GERMEN rotundatum; STYLUS bre-vissimus; STIGMA obtusum, fig. 5. auct. fig. 7.	PISTILLUM: GERMEN rounded; STYLE very short; STIGMA obtuse, fig. 5. magn. fig. 7.
PERICARPIUM: SILICULA pedunculi longitudine, latissima, orbicularis, profunde emarginata, medio utrinque convexiuscula, ad latera alata, compressa, bilocularis, fig. 8, 10.	SEED-VESSEL: a SILICULE the length of the flower-stalk, very broad, orbicular, deeply notched, a little convex in the middle on each side, the sides winged and flat, biloc-ular, fig. 8, 10.
SEMINA utrinque 4 ad 9, sub-compressa, suborbicu-laria, parallele lineata, glabra, rufa, fig. 12.	SEEDS in each cell from 4 to 9, somewhat flattened, and orbicular, marked with parallel lines, smooth, of a reddish brown colour, fig. 12.
DISSEPIMENTUM lanceolatum, acutum, fig. 11.	PARTITION lanceolate, pointed, fig. 11.
VALVULÆ naviculares, fig. 9.	VALVES boat-shaped, fig. 9.

The *Thlaspi arvense* is scarcely entitled to a place in the *Flora Londinensis*, as we have only seen a few acci-dental plants of it growing near the *Spaniards, Hampstead-Heath*.

RAY informs us, that it is found in the fields about *Wormingford* in *Essex* plentifully, as also at *St. Osyth* in *Tendring Hundred*, at *Stone* in *Staffordshire*, and *Saxmundham* in *Suffolk*; to these habitats we may add, on the authority of Dr. GOODENOUGH, *Broughton Pogges* in *Oxfordshire*, in the corn fields near which it is found in abundance.

It flowers the beginning of *June*, and the seeds are ripe by the end of the month; hence they are not liable to mix and be ground with our corn, to the flower of which they might communicate the taste of garlic, which the plant is said to give to the milk of such cattle as feed on it.

It is obviously distinguished, as RAY has observed, from all our plants of the same genus, by its smoothness, and large flat round pods, whence it has very properly been called *Penny-cress*: HALLER judiciously observes, that the true seed-vessel is in the centre, and that it owes its extraordinary breadth to winged appendages, which TOURNEFORT has admirably well expressed.

The seeds are said to produce twice as much oil as linseed.

This species and the *Thlaspi Campestre* are used indiscriminately in medicine; the seeds, more especially those of the present plant, have an acrid biting taste, approaching to that of the common mustard, with which they agree nearly in their pharmaceutical properties, their pungent matter being totally extracted by water, only partially by rectified spirit, and being elevated by water in distillation. They have joined to their acrimony an unpleasant flavour, somewhat of the garlic or onion kind, and this they give out to spirituous as well as watery menstrua; they are rarely made use of any otherwise than as ingredients in the compositions whose names they bear, though some recommend them in different diseases preferably to the common mustard. *Lewis M. Med. 647.*













*Cerastium arvense.*



# CERASTIUM ARVENSE. CORN CERASTIUM or MOUSE-EAR CHICKWEED.

CERASTIUM *Lin. Gen. Pl.* DECANDRIA PENTAGYNIA.

*Cal.* 5-phyllus. *Petala* bifida. *Capf.* unilocularis apice dehiscens.

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *arvense* foliis lineari-lanceolatis, obtusis, glabris; corollis calyce majoribus. *Lin. Syst. Vegetab.* p. 436. *Sp. Pl.* p. 628. *Fl. Suec.* n. 417.

MYOSOTIS foliis linearibus, lanceolatis, petalis calyce duplo longioribus. *Hall. Hist.* 889.

MYOSOTIS *arvensis* hirsuta flore majore. *Vaill. Paris.* 141. t. 30. f. 4.

CENTUNCULUS *arvensis* hirsutus flore majore. *Bauh. Pin.* 210. *Raii Syn.* 348, Long-leav'd rough Chickweed with a large flower.

CARYOPHYLLUS *holosteus*. *Ger. emac.* 595. *arvensis* hirsutus. *Parkin.* 1339. *Huds. Fl. Angl.* ed. 2. p. 201. *Lightfoot Fl. Scot.* p. 241.

RADIX perennis, filamentoso-fibrosa, repens.

CAULES *steriles* plurimi, palmares et ultra, laxe cespitosi, inferne prostrati, sæpius repentes, poltea erecti, basi subramosi, deorsum pilosi; caulis florifer sæpe duplo altior, validior; strictus, superne ramosus, pilis minutis, horizontalibus, glandulosis subviscosus, omnes teretes, geniculati, ad geniculos sensim subincrassati.

FOLIA saturate viridia, sessilia, opposita, subconnata, patentia, subreflexa, lineari lanceolata, acutiuscula, supra pilosiuscula, pilis sursum spectantibus, subtus lævia, margine ciliata, ciliis recurvis.

PEDUNCULI e dichotomia caulis, solitarii, binati, ternati, erecti, uniflori; *stipulis* binis, oppositis, ovatis, acutis, concavis, margine membranaceis.

FLORES albi, terminales, erecti, magni.

CALYX: PERIANTHIUM pentaphyllum, persistens foliolis lanceolatis, acutis, subconcavis, pilosiusculis, margine membranaceis, *fig.* 1.

COROLLA: PETALA 5, cordiformia, patentia, versus marginem parum reflexa, ad medium fere bifida, tenera, alba, lineis hyalinis radiatim striata, calyce duplo longiora, *fig.* 2.

STAMINA: FILAMENTA decem, filiformi-subulata, corolla breviora, alterna breviora; ANTHERÆ ovales, luteæ, *fig.* 3.

PISTILLUM: GERMEN globosum; STYLI quinque, capillares, subreflexi; STIGMATA obtusa, *fig.* 4.

PERICARPIUM: CAPSULA ovato-cylindracea, calyce longior, ore decemdentato, *fig.* 5.

SEMINA plurima, rufescentia, *fig.* 6.

ROOT perennial, with thready fibres, creeping.

STALKS which bear no flowers, numerous, a hand's-breadth or more in length, forming a kind of loose turf, below prostrate and mostly creeping, afterwards upright, somewhat branched at the base, hairy, hairs turned downward, the flowering stem often twice as high, stronger, straight, branched above, somewhat viscid with minute glandular hairs, both kinds round, jointed, thickened gradually towards the joints.

LEAVES deep green, sessile, opposite, somewhat united at bottom, spreading, frequently turned back, betwixt linear and lanceolate, rather pointed, hairy on the upper side, hairs pointing upwards, on the under side smooth, edge fringed with hairs crooked backwards.

FLOWER-STALKS from the forking of the stalk, growing singly, or divided into two's or three's, upright, one-flowered, *stipulæ* in pairs, opposite, ovate, acute, concave, membranous on the edge.

FLOWERS white, terminal, upright, and large.

CALYX: a PERIANTHIUM of five leaves, permanent, lanceolate, pointed, a little hollow, somewhat hairy and membranous on the edge, *fig.* 1.

COROLLA: 5 PETALS, heart-shaped, spreading, turned back a little towards the edge, divided almost to the middle into two segments, tender, white, striated with transparent lines in the form of rays, twice the length of the Calyx, *fig.* 2.

STAMINA: ten FILAMENTS, slightly tapering, shorter than the corolla, the alternate ones shortest; ANTHERÆ oval and yellow, *fig.* 3.

PISTILLUM: GERMEN globular; STYLES five, very slender and somewhat reflexed; STIGMATA blunt, *fig.* 4.

SEED-VESSEL: a CAPSULE betwixt ovate and cylindrical, longer than the calyx, the mouth having ten teeth, *fig.* 5.

SEEDS numerous, reddish brown, *fig.* 6.

A rare plant in the neighbourhood of London, not uncommon about Croydon, and very plentiful about Bury in Suffolk; affects dry situations; is found on sand banks, walls, and in corn-fields; flowers with us early in June.

Is distinguished from all the other *Cerastiums* growing with us, by its large flowers, deep green leaves, which appear smooth at a distance, and powerfully creeping roots and stalks.

A few roots of this species planted on a bank in my garden, Lambeth-Marsh, covered with stones in imitation of rock-work, soon increased so as wholly to overspread a great part of it, and in a few years penetrating through to the north side of the bank, supplanted the *Saxifraga hypnoides*, with a fine coat of which it was on that side thickly covered.—We have seen it penetrate the mortar of a brick wall, and have found that there is scarcely a plant of its size it will not overcome. We mention these circumstances, not only as they tend to illustrate a part of the oeconomy of the plant, but that persons may be on their guard how they introduce it, or such like encroaching plants, on any kind of rock-work they do not wish them wholly to cover.

It varies in the smoothness of its leaves.







# CARDUUS PALUSTRIS. MARSH THISTLE.

CARDUUS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Cal.* ovatus, imbricatus, squamis spinosis. *Recept.* pilosum.

*Raii Syn. Gen.* 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO SIVE CAPITATÆ.

CARDUUS *palustris* foliis decurrentibus dentatis: margine spinosis, floribus racemosis erectis, pedunculis inermibus. *Lin. Syst. Vegetab.* p. 724. *Sp. Pl.* 1151. *Fl. Suec.* n. 720.

CIRSIUM caule recto subnudo alato, foliis semipinnatis spinosis, calycibus molliter spinosis. *Haller Hist.* n. 170.

CIRSIUM *palustre.* *Scopoli Fl. Carn.* n. 1004.

CARDUUS *palustris.* *Bauh. Pin.* 377. *Parkins.* 983. *Raii Synop.* p. 194. Marsh-Thistle. *Hudson Fl. Angl. ed. 2.* p. 352. *Lightfoot Fl. Scot.* p. 453.

RADIX biennis.

ROOT biennial.

CAULIS quadripedalis, et ultra, erectus, ramosus, multangulus, pilis crebris longis albis hirsutus, alatus, spinosus, longitudinaliter viridi et purpureo variegatus.

STALK four feet or more in height, upright, branched, multangular, hirsute with numerous long white hairs, winged, spinous, variegated longitudinally with green and purple.

FOLIA sessilia, deflexa, lanceolata, acuta, laceratodentata, laciniis horizontalibus, oppositis, dentibusque latis, obtusiusculis, dente infimo cujusque laciniae crispato, elevato, venosa, pilis remotioribus hirsuta, supra obscure viridia, subtus glauca, costa pallide viridescenti, subtus hirsutissima, margine spinoso, spinis basi purpurascens, apice albis, folia caulina suprema apice linearia, elongata.

LEAVES sessile, bent downwards, lanceolate, pointed, jaggedly toothed, segments horizontal, opposite, together with the teeth broad and somewhat blunt, the lowermost tooth of each segment crisp'd and elevated, veiny, hirsute with hairs standing remotely, above of a deep green colour, glaucous on the under side, the mid-rib of a pale green colour, and extremely hairy underneath, the margin of the leaf spinous, the spines purplish at the base and white at the extremity, the uppermost stalk-leaves elongated and linear at the extremity.

Foliorum rudimenta spinosa ad caulem quinque et sexfariam interrupta, decurrentia, eum alatum, spinosum reddunt.

Five or six rows of spinous rudiments of leaves running interruptedly down the stalk, render it winged and spinous.

FLORES in summitate caulis ramorumque congesti, sessiles, violacei.

FLOWERS of a violet colour, sessile, in clusters on the top of the stalk and branches.

CALYX ventricosus, subovatus, lævis, sublanuginosus, arcte imbricatus, squamis ovatis, convexis, viridibus aut purpurascens, mucrone divergente purpureo terminatis, *fig. 1. auct.* sub mucrone linea prominula nitida notatis, *fig. 2.*

CALYX ventricose, somewhat ovate, smooth, a little woolly, scales lying closely one over the other, ovate, convex, green or purplish, terminated by a purple diverging mucro or point, *fig. 1. magn.* beneath which is a glossy linear prominence, *fig. 2.*

COROLLA composita, tubulosa, uniformis, calyce duplo longior; *Corollulae* hermaphroditæ, subæquales, reflexæ; *Corolla* propria monopetala, infundibuliformis, tubo tenuissimo, albescenti; *limbo* erecto, basi ovato, quinquefido, violaceo, laciniis linearibus, æqualibus, unica profundius separata, *fig. 3.*

COROLLA compound, tubular, uniform, twice as long as the calyx; *Florets* hermaphrodite, nearly equal, turned back, each single *Floret* monopetalous, funnel-shaped, the tube very slender, whitish; the limb upright, ovate at the base, divided into five segments, which are of a violet colour, linear, equal, one more deeply separated than the rest, very slender, *fig. 3.*

STAMINA: FILAMENTA quinque, capillaria; ANTHERA cylindracea, tubulosa, corolla paulo longior violacea.

STAMINA: five FILAMENTS; ANTHERÆ forming a cylindrical tube, longer than the corolla, of a violet colour.

PISTILLUM: GERMEN ovatum; STYLUS filiformis, staminibus longior, pallide violaceus; STIGMA simplex, subulatum, nudum, *fig. 4.*

PISTILLUM: GERMEN ovate; STYLE filiform, longer than the stamens, of a pale violet colour; STIGMA simple, tapering, and naked, *fig. 4.*

SEMINA obovata, obsolete angulata, hinc convexa, inde parum concava, albida, nitida, *fig. 5.*

SEEDS inversely ovate, faintly angular, on one side convex, on the other a little concave, whitish, and shining, *fig. 5.*

PAPPUS sessilis, plumosus, *fig. 6.*

DOWN sessile and feathery, *fig. 6.*

RECEPTACULUM pilosum, planum.

RECEPTACLE hairy and flat.

On moist heaths and commons, in wet meadows, marshes, and the boggy parts of woods, the *Carduus palustris* is a very common, as well as a very troublesome plant; in the latter situation it frequently grows to the height of ten or twelve feet, and in some very favourable spots of this sort, acquires a height which we believe no other *British* herbaceous plant ever attains to.

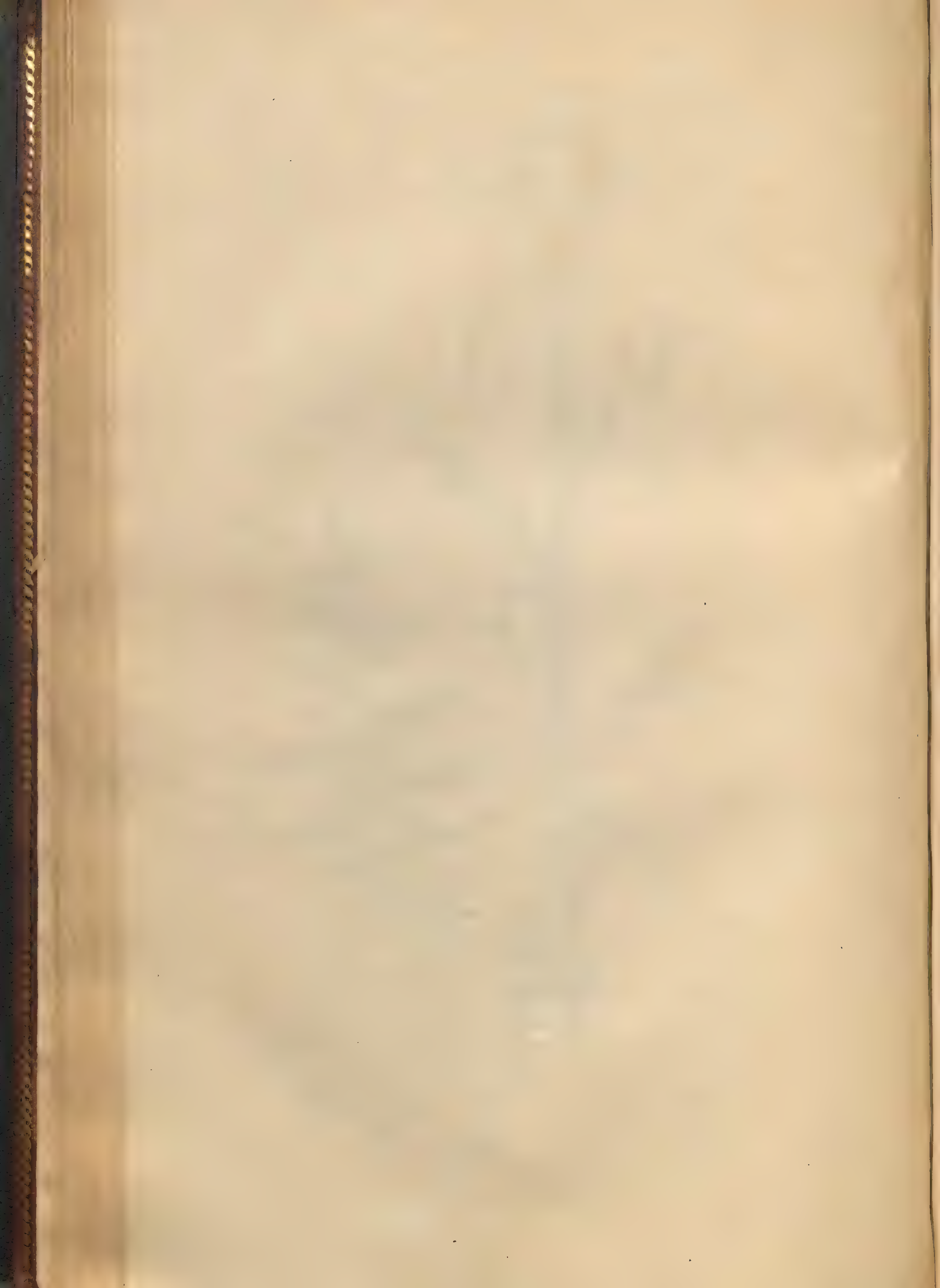
As it is a biennial, there is no great difficulty attends its extirpation—was the husbandman as careful to weed the noxious plants from his pastures as from his corn-fields, they would soon wear a more pleasing aspect.

As it is never found but in the situations above mentioned, it is not likely to be mistaken for any other Thistle; it has usually more purple about it than the rest of its kindred, and varies as many of the others do with white flowers—formidable as its stalks and leaves are from their numerous spines, its heads are perfectly harmless.





*Carduus palustris.*









*Stellaria uliginosa.*



# STELLARIA ULIGINOSA. BOG STICHWORT.

STELLARIA *Lin. Gen. Pl. DECANDRIA TRIGYNIA.*

*Cal. 5-phyllus, patens. Petala 5 bipartita. Caps. 1-locularis, polyperma.*

*Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.*

STELLARIA *uliginosa* foliis ovato-lanceolatis apice callofis, floribus subpaniculatis lateralibus, petalis calyce brevioribus.

STELLARIA *graminea* var. *γ.* *Lin. Fl. Suec. n. 393. Hudf. Fl. Angl. ed. 2. p. 190.*

STELLARIA *uliginosa.* *Schreb. Spic.*

ALSINE foliis ellipticis, acuminatis; petalis bipartitis. *Hall. Enum. p. 385. Boehm. Lichf. p. 153. n. 374. Aline foliis lanceolatis, petalis bipartitis; petiolis unifloris. Hall. Lichf. n. 881.*

STELLARIA (*hypericifolia*) foliis ovato-lanceolatis, integerrimis; pedunculis folitariis. *Wiggers Prim. Holf. p. 34. n. 364. Aline Hyperici folio. Vaill. Par. p. 9.*

STELLARIA (*aquatica*) foliis lanceolatis; petalis bipartitis, calycem longitudine æquantibus. *Pollich. Pal. p. 429. n. 442.*

STELLARIA (*Dilleniana*) foliis lanceolatis integerrimis, caule procumbente. *Leers Herborn. p. 107. n. 331.*

ALSINE *aquatica* folio gratiolæ flore stellato. *Dill. Catal. Gifs. 38 et App. 39.*

ALSINE *aquatica media.* *Bauh. Pin. 251.*

ALSINE *fontana.* *Tabern. icon. 712.*

ALSINE *longifolia uliginosis* proveniens locis, *J. B. III. 365. Raii Syn. p. 347. Long-leav'd Water Chickweed.*

RADIX annua, fibrillosa, terræ arcte inhærens.

CAULES plures, palmares ad pedales, diffusi, decumbentes, tetragoni, læves, tenues, flaccidi, disrupti filosi, parum ramosi.

RAMI tenuissimi, furculiformes, sparsi, nonnunquam apice floriferi.

FOLIA opposita, sessilia, connata, ultra semunciam longa, duas tresve lineas lata, subsecunda, subconniventia, ovato-lanceolata, acuta, basi ciliata, apice fusco callosa, ad latera subreflexa, tenera, lævia, pallide viridia.

FLORES laterales, raro terminales, pedunculati, parvi, albi, diametro duarum linearum.

PEDUNCULI ex axillis foliorum, solitarii, bini, terni, simplices aut compositi, ut plures pedicelli ex uno pedunculo communi egrediantur, semipollicares ad pollicares, superne incrassati, florigeri erecti, fructigeri deflexi, bracteis duabus, lanceolato-setaceis, membranaceis, albidis ad basin et divisiones instructi.

CALYX: PERIANTHIUM persistens, pentaphyllum, laciniis patentibus, lanceolatis, acutis, lævibus, viridibus, triis striis obsolete lineatis, *fig. 1.*

COROLLA: PETALA quinque, calyce breviora, approximata, laciniis calycinis incumbentia, stellatim expansa, ad basin usque bipartita, laciniis divaricatis, obovatis, albis, *fig. 2.*

STAMINA: FILAMENTA 10, subulata, alba, altera breviora; ANTHERÆ subrotundæ, flavescen-tes, *fig. 3.*

PISTILLUM: GERMEN subrotundum, glandulis quinque cinctum; STYLI tres, capillares, patentes, STIGMATA obtusa, alba, *fig. 4.*

PERICARPIUM: CAPSULA ovata, unilocularis, sex-valvis, *fig. 5.*

SEMINA plurima, minuta, subrotunda, compressa, rugosa, rufa, *fig. 6.*

ROOT annual, finely fibred, sticking strongly to the earth.

STALKS numerous, from a hands-breadth to a foot in length, loosely spread, decumbent, four-cornered, smooth, slender, weak, when broken asunder stringy, a little branched.

BRANCHES very slender, shoot-like, placed irregularly on the stalk, sometimes flowering at top.

LEAVES opposite, sessile, united at bottom, above half an inch in length and two or three lines in breadth, frequently growing to one side of the stalk, and bending towards each other so as almost to touch at the points, ovato-lanceolate, pointed, fringed at the base, tips brown and callous, turned back a little at the sides, tender, smooth, and of a pale green colour.

FLOWERS lateral, seldom terminal, standing on footstalks, small, white, about two lines in diameter.

FLOWER-STALKS proceeding from the bosoms of the leaves, singly, or in two's and three's, simple or compound, several partial flower-stalks proceeding from one common peduncle, half an inch to an inch in length, thickened above, the flower-bearing ones upright, the fruit-bearing ones turned downwards, furnished with two very minute, pointed, membranous whitish floral leaves at the base and divisions.

CALYX: a PERIANTHIUM of five leaves, permanent, the segments spreading, lanceolate, pointed, smooth, green, marked with three lines faintly prominent, *fig. 1.*

COROLLA: five PETALS shorter than the Calyx, approximating, lying on the segments of the Calyx, expanded in a star-like form, divided quite to the base, the segments spreading wide asunder, inversely ovate and white, *fig. 2.*

STAMINA: ten FILAMENTS, tapering, white, the alternate ones shortest; ANTHERÆ nearly round and yellowish, *fig. 3.*

PISTILLUM: GERMEN roundish, surrounded by five glands; STYLES three, very fine, and spreading; STIGMATA obtuse and white, *fig. 4.*

SEED-VESSEL: an ovate CAPSULE, of one cavity, and six valves, *fig. 5.*

SEEDS numerous, minute, roundish, flattened, wrinkled, of a reddish brown colour, *fig. 6.*



Most of the old Botanists regarded this plant as a distinct species, and the observations of the moderns have shown that their opinion was well founded; they considered it indeed as an *Alfine*, and this also was a further proof of their discernment, for the *Alfine media* and our plant are undoubtedly of the same genus, inasmuch as they agree exactly in the parts of fructification, number of stamina excepted, and that is found to vary in the *Alfine media*: the *Cerastium semidecandrum* is admitted to be of the same genus as the others, though it has only five stamina; the *Alfine* therefore should be removed to *Stellaria*, and called *Stellaria Alfine*; the *Cerastium aquaticum* ought also to be placed with them, as it agrees better with the character of a *Stellaria*, than a *Cerastium*, especially in its seed-vessel, a part which is of the first consequence in determining the genus, and which LINNÆUS has not sufficiently attended to.

LINNÆUS, in general too cautious in making species, considers our plant as a variety of *Stellaria graminea*; but as it differs from that plant in so many essential points, we conclude he never had an opportunity of fairly examining and contrasting the two in a living state: DILLENIUS has minutely described it, especially the flowers, but neither he or any other author that we are acquainted with, has noticed the callous tips of the leaves, though very conspicuous, nor the particular situation of the leaves respecting the stalk and each other, (see the description.)—DOODY, as appears from RAY's *Synopsis*, had the merit of observing that the flowers were produced *ex alis foliorum*, which is certainly one of the most striking characters of the species, but this is not produced in the common way; the fact is, the flowers would be terminal, did not a new kind of shoot or furculus, rather than a continuation of the stem, proceed from the panicle.

The petals being so deeply divided, and spreading so far asunder, has occasioned some mistakes in the descriptions which authors have given of the flowers: J. BAUHINE describes them with ten petals; VAILLANT on the contrary, with five, and those undivided; this author, assuming to himself a superior degree of discernment, complains that MORISON and RAY had described them as divided almost to the base; a more minute inspection would have taught him that they were not such superficial observers as he imagined.

It is a very common plant in wet springy meadows, and especially on the edges of the ditches, which intersect such meadows, but cannot be said to be truly a bog plant, like *Anagallis tenella*, or *Drosera*.

It flowers from *June* to *August*.





# CAUCALIS INFESTA. CORN CAUCALIS.

CAUCALIS *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

*Cor.* radiatæ; *disci* masculæ. *Petala* inflexo-marginata. *Fructus* fetis hispidus. *Involucra* integra.

*Raii Syn. Gen.* 11. UMBELLIFERÆ HERBÆ.

CAUCALIS *arvensis* involucro universali monophyllo, umbella conferta, feminibus rotundato-ovatis, foliolis ovato-lanceolatis, pinnatifidis, ramis divaricatis. *Huds. Fl. Angl. ed. 2. p. 113.*

SCANDIX infesta semine exteriore hispido, umbellulis confertissimis hemisphæricis. *Lin. Syst. Veg. p. 237. Jacq. Fl. Austr. t. 46.*

CAUCALIS foliis duplicato-pinnatis, pinnulis longe confluentibus. *Hall. Hist. 742.*

CAUCALIS fegetum minor Anthriscus hispido similis. *Raii Syn. p. 20. Hist. Pl. p. 468.* Small Corn-Parley.

CAUCALIS pumila fegetum Goodyero. *Ger. emac.*

RADIX annua, fusiformis, tenuis, sublignosa, albidula.

CAULIS solitarius, semipedalis ad bipedalem, prope basin in ramos patentes, longos divisus, parum flexuosus, teres, inferne glaber, subrubens, superne scabriusculus, striatus, viridis.

FOLIA alterna, sessilia, remotiuscula, patentia, apice parum deflexa, petiolata, pinnata, pilis minutis albis utrinque hirsutula, sordide viridia, pleraque demum purpurea; *Foliola* seu pinnæ tres, ad septem, oppositæ, circumscriptiōne ovatæ, aut ovato-lanceolatæ, extima longissima, pinnatifidæ, laciniis lanceolatis, acutis: infimæ petiolatæ, remotiores, ceteræ sessiles, superiores confluentes.

FLORES in umbellis, parvi, albi, inodori.

CALYX: UMBELLA *universalis*, inæqualis, radiis tribus ad novem.

———— *partialis* inæqualis, conferta, convexa, radiis pluribus, exterioribus quinque longioribus.

INVOLUCRUM *universale* submonophyllum, plerumque nullum.

———— *partiale* foliolis subquinis, linearisubulatis, appressis, hirsutulis, umbellulæ fere longitudine.

PERIANTHIUM proprium, minutum, quinquedentatum.

COROLLA *universalis* difformis, radiata; flosculi disci sæpe abortivi.

———— *propria* hermaphrodita; PETALIS quinque inflexo-cordatis, inæqualibus, extimo maximo, ceteris gradatim diminutis, *fig. 1.*

STAMINA: FILAMENTA quinque, capillaria; ANTHERÆ parvæ, purpurascens, *fig. 2.*

PISTILLUM: GERMEN oblongum, inferum, hispidum, pilis apice rubris, *fig. 3.* STYLI duo, subulati, patentes; STIGMATA duo, capitata, *fig. 4.*

FRUCTUS ovato-oblongus, striatus, fetis rigidis uncinatis hispidissimus, *fig. 5.*

SEMINA duo, oblonga, hinc convexa, inde plana.

ROOT annual, tapering, slender, somewhat woody, and whitish.

STALK single, from half a foot to two feet high, divided near the base into long spreading branches, a little crooked, round, smooth below, and reddish; above roughish, striated, and green.

LEAVES alternate, sessile, somewhat remote, spreading, turned down a little at the tip, standing on footstalks, pinnated, covered on both sides with minute white hairs, whence slightly hirsute, of a dull green colour, most of them finally purple; the *leaflets* or pinnæ from three to seven, opposite, ovate or ovato-lanceolate, the outermost very long, pinnatifid, the segments lanceolate, pointed, the lowermost standing on footstalks, and more distant than the others, the rest sessile, the upper ones running together.

FLOWERS growing in umbels, small, white, and scentless.

CALYX: the *universal* UMBEL, unequal, with from three to nine rays.

———— the *partial* UMBEL, unequal, crowded, convex, composed of numerous rays, the five outermost of which are the longest.

INVOLUCRUM: the *general* one, of one leaf, more or less, most commonly wanting.

———— the *partial* one, composed of about five small leaves, very narrow and tapering, appressed, slightly hirsute, almost the length of the small umbel.

PERIANTHIUM of each floret very small, with five teeth.

COROLLA: the *universal* COROLLA misshapen, radiated, the florets of the disk often abortive.

———— the *florets* hermaphrodite, composed of five PETALS, inflexo-cordate, unequal, the outermost very large, the rest gradually diminished in size, *fig. 1.*

STAMINA: have five capillary FILAMENTS, and small purplish ANTHERÆ, *fig. 2.*

PISTILLUM: GERMEN oblong, below the corolla, hispid, hairs red at the tips, *fig. 3.* STYLES two, tapering, spreading wide; STIGMATA two, each forming a little head, *fig. 4.*

FRUIT ovato-oblong, striated, exceedingly hispid, with stiff hooked bristles, *fig. 5.*

SEEDS two, oblong, convex on one side, and flat on the other.

Most of the ancient Botanists confounded this plant with the *Caucalis Anthriscus*, which they might do without any great disparagement of their discernment: Mr. GOODYER, of Hampshire, the friend of old GERARD, and often mentioned by him with respect, appears first to have noticed it; RAY afterwards describes it with great accuracy.

Though the plant appears now to be well known, Botanists differ as to the genus to which it should be referred: LINNÆUS in his *Systema Naturæ* has considered it as a *Scandix*, and JACQUIN in his accurate and elegant work has followed him; BARON HALLER, on the contrary, ranks it as a *Caucalis*, and Mr. HUDSON, in our humble opinion with great propriety, coincides with him in opinion; for we apprehend it will generally be allowed that in the umbelliferous plants, a character taken from the seed is more to be depended on than one drawn from the involucre;—we have therefore taken Mr. HUDSON's specific description, but that we might differ as little as possible from LINNÆUS, we have changed the generic name only.

The term *infesta* has been applied to this plant, from its being a very common and bad weed in corn-fields, to which it is not altogether confined, being sometimes found by the sides of hedges and among rubbish: we meet with it frequently in *Battersea* fields, where it flowers from June to August.—The seeds when ripe adhere to one's clothes.





*Caulis in festa.*









*Salix triandra.*



# SALIX TRIANDRA. THREE-THREADED WILLOW.

SALIX *Lin. Gen. Pl.* DIOECIA DIANDRIA.

MASC. *Amenti squamæ. Cor. o. Glandula* baseos nectarifera.

FÆM. *Amenti squamæ. Cor. o. Stylus* 2-fidus. *Capf.* 1-locularis; 2-valvis.  
*Sem.* papposa.

*Raii Syn. Gen.* ARBORES ET FRUTICES.

SALIX *triandra* foliis ferratis glabris, floribus triandris. *Lin. Syst. Vegetab.* p. 879. *Sp. Pl.* p. 1442.

SALIX foliis glabris, elliptico-lanceolatis, ferratis; stipulis dentatis; julis gracilibus triandris.  
*Hall. Hist. n.* 1637.

SALIX *triandra. Scopoli Fl. Carn. ed. 2. p.* 259.

SALIX folio amygdalino utrinque virente aurito. *Bauh. Pin.* 473.

SALIX folio amygdalino utrinque aurito corticem abjiciens. Almond-Leaved Willow that casts its  
Bark. *Raii Syn. ed. 3. p.* 448.

SALIX folio auriculato splendente flexilis. *Raii Syn. ed. 3. p.* 448. The round-ear'd Shining  
Willow. *Hudf. Fl. Angl. ed. 2. p.* 425.

FRUTEX orgyalis et ultra, in arbusculum medio-  
crem nonnunquam exsurgens, corticem quo-  
tannis abjiciens, undique ramosus.

RAMI erecti, subvirgati, teretes, versus summitates  
angulati, profunde sulcati, tenaces, flexiles  
aut etiam fragiles presertim ad genicula,  
cortice e cinereo aut fusco virescente aut  
flavescente, foliosi.

FOLIA alterna, longitudine tripollicaria, latitudine  
fere pollicaria, in ramis junioribus triplo  
majora, lanceolata, acuta, ferrata, ferraturis  
cartilagineis, prominentibus, glabra, niten-  
tia, supra saturate viridia, subtus pallidiora,  
nervo medio albido, prominulo, basi glan-  
dulis aliquot sæpius occupata, petiolata, pe-  
tiolo semunciali, canaliculato.

STIPULÆ in quibusdam ramis nullæ, in plerisque  
binæ ad basin petioli, auriformes, rugosæ,  
crenulatæ, superne glandulosæ.

AMENTA *mascula* numerosa, ante anthesin longi-  
tudine fere pollicaria, subcylindracea, to-  
mento sericeo obducta, lutescente-viridia,  
odorata, post pollinis emissionem longitudine  
bipollicaria et ultra: foliola quinque lanceo-  
lata, utrinque nitentia, pilosa, subtus palli-  
diora ad basin cujusvis amenti.

SQUAMA ad basin singuli floris pallide viridis, parum  
rugosa, margine apiceque pilosa, *fig. 1.*

STAMINA: FILAMENTA plerumque tria, sub polli-  
nis emissionem squamâ duplo longiora; AN-  
THERÆ subrotundæ, biloculares, lutescen-  
tes, *fig. 2.*

NECTARIUM: *Glandula* minuta, truncata, ad ger-  
minis basin, *fig. 3.*

AMENTA *feminea* numero et longitudine masculis  
similia, illis viridiora et minus spectabilia.

SQUAMÆ obtusæ, rugosæ, lutescentes, sub flore-  
centia ad dimidiam germinis altitudinem  
attingentes, *fig. 4.*

GERMEN oblongum, acuminatum, *fig. 5.*

STIGMATA duo, breviora, obtusa, horizontalia, bi-  
fida, *fig. 6.*

A SHRUB six feet or more in height, sometimes  
growing up to a middle-sized tree, casting  
its bark yearly, branched on all sides.

BRANCHES upright, somewhat twiggy, towards the  
extremity angular or deeply grooved, tough,  
flexible, or even brittle, especially at the  
joints, covered with an ash-coloured, brown-  
ish-green, or yellowish bark, thickly set with  
leaves.

LEAVES alternate, three inches in length, and al-  
most one in breadth, in the younger branches  
thrice as large, lanceolate, pointed and fer-  
rated, the ferratures or teeth cartilaginous  
and prominent, smooth, glossy, of a deep  
green colour above and pale beneath, the  
midrib whitish, and somewhat prominent,  
most commonly beset with some glands at  
the base, standing on footstalks, half an inch  
in length, scooped.

STIPULÆ in some of the branches none, but in  
most a pair at the base of the leaf-stalk, ear-  
shaped, wrinkled, notched and glandular on  
the upper side.

CATKINS of the *male* plant numerous, before the  
antheræ put forth almost an inch long, nearly  
cylindrical, covered with a silky down, of a  
yellowish green colour; when all the an-  
theræ have shed their pollen, they extend  
two inches or more in length: five small  
lanceolate leaves, glossy on both sides, hairy  
and somewhat paler on the under side, are  
placed at the base of each catkin.

The SCALE at the base of each floret, is of an uni-  
form pale green colour, hairy on both edges  
as well as the tip, and somewhat wrinkled,  
*fig. 1.*

STAMINA: FILAMENTS mostly three, becoming  
on the shedding of the pollen as long again  
as the scale; ANTHERÆ roundish, yellow  
and bilocular, *fig. 2.*

NECTARY: a minute *Glandule*, truncated, at the  
base of the Germen, *fig. 3.*

CATKINS of the *female*, similar in number and length  
to those of the male, but greener and less  
fleshy.

SCALES obtuse, wrinkled, yellowish, when pro-  
perly in blossom extending half way up the  
germen, *fig. 4.*

GERMEN oblong, tapering, *fig. 5.*

STIGMATA two, short, obtuse, spreading horizon-  
tally, and bifid, *fig. 6.*

The Willows in general are more distinguished for their uses in rural œconomy, than as ornamental trees or shrubs; nevertheless, many of them come under the latter description, and with them we may rank the present species, more indeed on account of its flowers than its foliage. When suffered to grow, it acquires the size of a small tree, and the catkins being unusually numerous, render the male plant in particular, in which they are of a bright yellow colour, and agreeable scent, an object highly pleasing among other flowering shrubs or trees.

In all Willows planted for ornament, the male tree is to be preferred; not only because its catkins are the most brilliant, while the foliage is the same as that of the female, but because the females, when planted by themselves, quickly shed their catkins, which make a litter.

The leading character of this Willow, when in flower, is its three stamina to each floret; now and then indeed two only occur, but not sufficiently often to destroy the excellency of the character: when out of flower, it is distinguishable by yearly casting the bark of its trunk when of a certain age (whether every individual does this or not, I am not certain; a tree of this species in my garden has constantly done it for many years); its leaves are more strongly serrated than most others; the branches in autumn are usually furnished with stipulæ, but not always: and they have another character which I have found of great consequence in determining this species; towards the top they are angular or grooved, in a greater degree than any other Willow I have examined—it is not usual for Willows to flower spring and autumn, but we have frequently found this species to do so.

In its tree state, it grows sparingly in the hedges about town; in the other grounds it is not uncommon, being cultivated as a Basket Willow—it flowers the beginning of *May*—the bark has more astringency but less bitterness than the *Salix monandra*, and has been found efficacious in curing intermitting fevers.

We strongly suspect that the *amygdalina* is no other than this species.





# ACHILLEA MILLEFOLIUM. COMMON YARROW, or MILFOIL.

Linn. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. paleaceum. Pappus nullus. Cal. ovatus, imbricatus. Flosculi radii circiter quinque.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO, DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

ACHILLEA *Millefolium* foliis bipinnatis, nudis; laciniis linearibus, dentatis; caulibus superne fulcatis. Linn. Syst. Veg. ed. 14. Murr. p. 778. Sp. Pl. p. 1267.

ACHILLEA foliis pinnatis, pinnis longe æqualibus, pinnatis, pinnulis trifidis et quinquefidis. Hall. Hist. 107. Scop. Fl. Carn. 1095.

MILLEFOLIUM vulgare. Baub. Pin. 140. Park. 693. terrestre vulgare. Ger. em. 1072. vulgare. Raii Syn. 183. Common Yarrow, or Milfoil. Hudson Fl. Angl. ed. 2. p. 374.

RADIX perennis, repens, teres, fibrillosa, cinereo albida.

CAULIS pedalis et ultra, erectus, teretiusculus, subangulatus, inferne glaber, tomento tenui araneofo vestitus, superne fulcatus, lanuginosus, ramosus.

FOLIA alterna, lineari-lanceolata, radicalia petiolata, petiolis canalicularibus, caulina sessilia, subamplexantia, supra glabra, subtus villosula, pinnata, pinnis oppositis, subovatis, multifidis, acutiusculis, obliquis.

FLORES in corymbo terminali, lanuginoso congesti, albid.

BRACTEÆ lineares, integræ, et pinnatifidæ, parvisculæ, ad radios pedunculosque corymbi.

CALYX communis ovatus, pubescens, arcte imbricatus, squamis ovatis, concavis, obtusiusculis, albo; membranaceis, apice fusco ciliatis, nervo dorsali viridi.

COROLLA composita, radiata; Corollulæ disci hermaphroditæ, circiter duodecim, infundibuliformes, calycis longitudine, tubo fordide lutescente, limbo quinquefido, laciniis ovatis, acutis, revolutis, subdiaphanis, albidis, fig. 1.

COROLLULÆ radii fæmineæ, plerumque quinque, planæ, patentes, suborbiculares, obtuse tridentatæ, seu obsolete trifidæ, lacinula intermedia brevior, tubo cylindrico, viridescente, striato, subpubescente, calycis longitudine, fig. 2.

STAMINA Hermaphroditis: FILAMENTA quinque, capillaria, breviora; ANTHERA cylindracea, tubulosa, lutea, fig. 3.

PISTILLUM Hermaphroditis et Fæmineis: GERMEN oblongum, compressiusculum, subtetragonum, glabrum, albidum; STYLUS capillaris, staminibus longior; STIGMATA duo, linearia, truncata, reflexo-patula, hyalina, fig. 4.

ROOT perennial, creeping, round, furnished with numerous fibres, of a whitish ash-colour.

STALK a foot high or more, upright, nearly round, slightly angular, below smooth, covered with a slight cobwebby down, above grooved, woolly, and branched.

LEAVES alternate, betwixt linear and lanceolate, the radical ones standing on foot-stalks, the foot-stalks hollowed above, those of the stalk sessile, somewhat embracing the stalk, above smooth, beneath a little villous, pinnated, the pinnæ opposite, somewhat ovate, multifid, somewhat pointed and oblique.

FLOWERS whitish, terminating in a woolly, close corymbus.

BRACTEÆ linear, entire and pinnatifid, smallish, placed at the radii, and peduncles of the corymbus.

CALYX common to all the florets ovate, downy, closely imbricated with ovate, concave, bluntish scales, having a white, membranous edge, tipped with a brown fringe, the midrib green.

COROLLA compound, radiated, FLORETS of the disk hermaphrodite, about twelve, funnel-shaped, the length of the calyx, tube dirty yellow, the limb quinquefid, the segments ovate, pointed, rolled back, rather transparent and whitish, fig. 1.

FLORETS of the radius female, usually five, flat, spreading, somewhat round, bluntly three-toothed or faintly trifid, the middle segment shorter than the rest, the tube cylindrical, greenish, striated, slightly downy, the length of the calyx, fig. 2.

STAMINA in the Hermaphrodite flowers: five, capillary, short FILAMENTS; ANTHERÆ forming a yellow, tubulous cylinder, fig. 3.

PISTILLUM in the Hermaphrodite and Female flowers, GERMEN oblong, a little flattened, somewhat four-cornered, smooth, whitish; STYLE very slender, longer than the stamens; STIGMATA two, linear, truncated, a little reflexed, pellucid, fig. 4.

The Yarrow is a plant extremely common with us in dry pastures, on ditch-banks, and by road-sides: it flowers from July to September, its blossoms are usually white, but are frequently found of different shades from a pale to a deep red, the most brilliant of which are cultivated in our gardens for ornament.

Though the Yarrow constitutes a very large part of the pasturage of this kingdom, our agriculturists are not agreed whether to consider it as a plant to be cultivated, or extirpated.

According to LINNEUS'S experiments, it was eaten by sheep, horses, and swine; kine and goats sometimes eat, sometimes rejected it; if we are to be influenced by the predilection which most of these animals have shewn for it, and are satisfied with the mode in which the experiments were conducted, we should consider it worthy of cultivation. Mr. ANDERSON, who in general is too precipitate in his encomiums on new plants, speaks very highly in its favour; he observes, that though cattle do not eat its flowering stems, which remain, and give the pasture a disagreeable appearance, they are very fond of its foliage, which as it forms a close pile, or as some express it, a good bottom, makes it one of the most desirable grasses (speaking in the language of husbandry) the Farmer can sow his land with; but he concludes this plant seems to be altogether unfit for hay, and therefore ought only to be sown where the field is intended for pasturage.

The leaves and flowers of Milfoil are greatly recommended by some of the German Physicians, as mild corroborants, vulneraries, antispasmodics, in diarrhoeas, hemorrhages, hypochondriacal, and other diseases.

They promise by their sensible qualities to be of no inconsiderable activity. They have an agreeable, though weak, aromatic smell, and a bitterish, roughish, somewhat pungent taste. The leaves are chiefly directed for medicinal use, as having the greatest bitterness and astringency: the flowers have the strongest and most subtle anodyne or antispasmodic.

The virtue of the leaves and flowers is extracted both by watery and spirituous menstrua, the astringency most perfectly by the former, their aromatic warmth and pungency by the latter, and both of them equally by a mixture of the two. The flowers distilled with water yield a penetrating essential oil, possessing the flavour of the Milfoil in perfection, though rather less agreeable than the flowers themselves, in consistence somewhat thick, and tenacious, in colour remarkably variable, sometimes of a greenish yellow, sometimes of a deep green, sometimes of a bluish green, and sometimes of a fine blue: these differences seem to depend in great measure on the soil in which the plant is produced. Lewis's Mat. Med. p. 424.

In some parts of Sweden they put it to beer in a fermenting state to produce inebriation. Linn. Fl. Suec.





*Achillea Millefolium* L.









*Carduus arvensis*



# CARDUUS ARVENSIS. CURSED THISTLE.

Linn. Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.

Cal. ovatus, imbricatus, squamis spinosis. Receptaculum pilosum.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO, SIVE CAPITATÆ.

CARDUUS *arvensis* foliis sessilibus, incisis, dentatis, spinosis; caule multifloro; radice repente.

SERRATULA *arvensis* foliis dentatis, spinosis. Linn. Syst. Veg. ed. 14. Murr. p. 724. Sp. Pl. 1149. Fl. Suec. 715.

CIRSIUM caule anguloso, ramofo, foliis semipinnatis, pinnis angulosis, spinosis, calycibus longis inermibus. Hall. Hist. 171.

CIRSIUM *arvense*, foliis lanceolatis, dentatis, spinosis; calycinis squamis tomentosis, inermibus, aristatis. Scopoli Fl. Carn. n. 1001.

CARDUUS vinearum repens, fonchi folio. Bauh. Pin. 387. Ceanothos f, viarum et vinearum repens. Park. 959. vulgarissimus viarum. Ger. emac. 1173. Raii Syn. 194. Common Way-Thistle, or rather Creeping-Thistle. Hudson Fl. Angl. ed. 2. p. 349.

RADIX perennis, teres, crassitie fere digiti minimi, fordide albida, profunde descendens, repens, undique longissime se protendens.	ROOT perennial, round, almost the thickness of the little finger, of a dirty white colour, penetrating deeply, and creeping far and wide.
CAULIS tripedalis, et ultra, erectus, subramosus, basi teres, lanuginosus, superne angulatus, lævis.	STALK three feet or more in height, upright, somewhat branched, at the base round, and somewhat woolly; above angular, and smooth.
FOLIA sessilia, alterna, lanceolata, inciso-subpinnatifida, subcompressa, sinuata, undulato-crispata, spinosa, superne lævia, viridia, subtus pallidiora, vix villosiuscula, suprema subintegra.	LEAVES sessile, alternate, lanceolate, cut in so as to be somewhat pinnatifid, the sides somewhat pressed together, sinuated, waved and curled, spinous, above smooth, green, beneath paler, scarcely villous, the uppermost ones almost entire.
FLORES pallide purpurei, mediocres, suavissime odorati.	FLOWERS middle-sized, of a pale purple colour, very fragrant.
PEDUNCULI foliosi, uniflori, subbiflori, superne subtomentosi.	FLOWER-STALKS leafy, one or two-flowered, above somewhat woolly.
CALYX communis ovatus, apice contractus, imbricatus, squamis numerosis, appressis, lanceolatis dorso acutis, apice appendiculatis, mucronatis, purpurascens, mucronibus subreflexis, mitibus, fig. 1.	CALYX common to all the florets ovate, contracted at top, imbricated, the scales numerous, pressed close, lanceolate, sharp at the back, terminated by a pointed appendage, purplish, points turning a little back, and mild, fig. 1.
COROLLA: composita, tubulosa, uniformis; Corollulae omnes hermaphroditæ, subæquales, monopetalæ, infundibuliformes, tubo tenuissimo, limbo quinquefido, reflexo, laciniis linearibus, unica profundius separata, fig. 2.	COROLLA compound, tubular, uniform, all the Florets hermaphrodite, nearly equal, monopetalous, funnel-shaped, the tube very slender, the limb divided into four, linear, reflexed segments, one more deeply divided than the rest, fig. 2.
STAMINA; FILAMENTA 5, capillaria, brevissima, alba; ANTHERA cylindracea, corolla brevior, ore quinquefido, dentibus apice albis.	STAMINA: five capillary FILAMENTS, very short and white; ANTHERÆ united into a cylinder, shorter than the corolla, the mouth 5-toothed, the teeth white at the tips.
PISTILLUM: GERMEN ovatum, compressum; STYLUS filiformis, staminibus longior, ex albidorubellus; STIGMA obtusum, demum bifidum.	PISTILLUM: GERMEN ovate, compressed; STYLE filiform, longer than the stamens, of a whitish red colour; STIGMA obtuse, finally bifid.
SEMINA linearia, obsolete tetragona; PAPPUS plumosus, sessilis, fig. 4.	SEEDS linear, slightly four-cornered; DOWN feathery, sessile, fig. 4.
RECEPTACULUM pilosum, pilis nitentibus, fig. 5.	RECEPTACLE hairy, hairs glossy, fig. 5.

The several genera of *Carduus*, *Cirsium*, and *Serratula* are in many instances so nearly allied, that Botanists are frequently at a loss for a character which shall discriminate them; without entering at present into a laboured disquisition on this subject, we shall only remark that to whatever genus the *Marsh Thistle* belongs (already figured in this work) this belongs to the same, if that be a Thistle, this must also be one; moreover, independent of the characters to be drawn from the fructification, every one will allow that it has more the habit of a *Carduus* than a *Serratula*.



We have bestowed on this plant the harsh name of *curfed*, with a view to awaken the attention of the agriculturist to its nature and pernicious effects; repeated observation has convinced us that many husbandmen are ignorant of its œconomy, and while they remain so they will not be likely to get rid of one of the greatest pests which can affect their corn-fields and pastures.

Of the Thistle tribe the greatest part are annual or biennial, and hence easily destroyed, some few are not only perennial, but have powerfully creeping roots, and none so much as the present; in pulling this plant out of the ground, we draw up a long slender root which many are apt to consider as the whole of it, but if those employed in such business examine the roots so drawn up, they will find every one of them broke off at the end, for the root passes perpendicularly to a great depth, and then branches out horizontally under ground.

To give an idea of its astonishing increase, we shall subjoin from the memoirs of the Bath Agricultural Society an experiment made for the very purpose of ascertaining it \*. When this paper was delivered to the society from experiments then made, I was of opinion that repeated mowing or spudding would not destroy this Thistle, I have since had cause from further observation and experiments to think differently; so deep however does it penetrate that these operations are the only ones which can well be applied to its destruction, and if they do not effectually overcome, they will greatly enfeeble it.

This species is seen every where by road-sides, too frequently in corn-fields, and more rarely in pastures; it flowers from *June* to *August*.

The *Papilio Cardui* feeds on its foliage; the stalks are frequently disfigured by large tubercles, the effect we apprehend of a *Cynips*, and the leaves, especially on the under-side, are sometimes observed of a deep brown colour, as if covered with snuff, the effect of some disease, with the cause of which we are as yet unacquainted.

It varies with white flowers, and the leaves have sometimes few or no spines on them.

\* April 1st, 1778, I planted in a garden a piece of the root of this Thistle, about the size of a goose-quill, and two inches long, with a small head of leaves, cut off from the main root just as it was springing out of the ground; by the 2d of the November following this small root had thrown out shoots, several of which had extended themselves to the distance of eight feet, some had even thrown up leaves five feet from the original root; most of the shoots which had thus far extended themselves were about six inches under ground, others had penetrated to the depth of two feet and a half; the whole together when dug up and washed from the earth weighed four pounds. In the spring of 1779, contrary to my expectation, this Thistle again made its appearance on and about the spot where the small piece was originally planted; there were between 50 and 60 young heads, which must have sprung from the roots which had eluded the gardener's search, though he was particularly careful in extracting them.





# HYDROCOTYLE VULGARIS. MARSH PENNYWORT, or WHITE-ROT.

HYDROCOTYLE *Linn. Gen. Pl.* PENTANDRIA DIGYNIA.

*Umbella simplex: Involucro 4-phylo. Petala integra. Semina femiorbiculato-compressa.*

*Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.*

HYDROCOTYLE *vulgaris* foliis peltatis, umbellis quinquefloris. *Linn. Syst. Vegetab. p. 271. Sp. Pl. p. 338. Fl. Suec. n. 234.*

HYDROCOTYLE foliis rotundis emarginatis, petiolis centralibus, umbellis fastigiatis. *Hall. Hist. 812.*

RANUNCULUS aquaticus, cotyledonis folio. *Bauh. Pin. 180.*

COTYLEDON palustris. *Ger. emac. 350. Parkinsf. 1214.*

HYDROCOTYLE *vulgaris. Inst. R. H. 328. Raii Syn. p. 222. Marsh Pennywort, or White-Rot. Hudf. Fl. Angl. ed. 2. p. 110.*

RADICES perennes, capillaceæ, albidæ.

CAULES repentes, teretes, glabri, ad genicula radican-  
cantes.

FOLIA longitudine et latitudine vix pollicaria, longe  
petiolata, peltata, orbiculata, repanda aut  
sublobata, crenulata, centro nonnihil de-  
pressa, punctoque albido notata, utrinque  
venis anastomosantibus reticulata, glaberrima,  
nitentia, læte viridia. *Petoli subbipollicares,*  
*erecti, teretes, glabri, inferne nudi, superne*  
*pilis setosis, horizontalibus, distantibus, his-*  
*piduli.*

FLORES parvi, glomerati, albi, aut subrubelli, pro-  
pe terram e repente caule ad axillas petiolo-  
rum prodeuntes.

PEDUNCULI communes solitarii, vix ultra pollicares,  
erecti, teretes, pilosiusculi, in glomerulis aut  
verticillis potius quam umbellulam termi-  
nantes. *Stipulae duæ, subrotundæ, membra-*  
*naceæ, albæ, ad basin cujusvis pedunculi.*

FLOSCULI 5, ad 9, fertiles, exigui, brevissime pedi-  
cellati. Folium minutum, lineari-subulatum,  
singulo flosculo subjectum.

PERIANTHIUM proprium vix ullum.

COROLLA pentapetala, linearis diametro, PETALA  
ovata, acuta, integra, patentia, pallide rosea,  
*fig. 1, 2, aut.*

STAMINA: FILAMENTA 5, subulata, albida, corollæ  
breviora. ANTHERÆ minimæ, albæ, *fig. 3.*

PISTILLUM: GERMEN inferum, erectum, compres-  
sum, orbiculatum, subtrigonum, *fig. 4.* cor-  
pusculo fungoso, flavo, coronatum; STYLI  
duo, subulati, brevissimi; STIGMATA obtu-  
siuscula, alba, *fig. 5.*

PERICARPIUM nullum: FRUCTUS orbiculatus, com-  
pressus, bipartibilis.

SEMINA duo, orbiculata, compressa, pallide fusca.

ROOTS perennial, capillary, whitish.

STALKS creeping, round, smooth, striking root at the  
joints.

LEAVES in length and breadth about an inch, stand-  
ing on long footstalks inserted into the cen-  
tre of the leaf, orbicular, waved or somewhat  
lobed and notched on the edge, the centre a  
little depressed, and marked with a white  
dot, veins anastomosing and forming a kind  
of net-work on each side the leaf, perfectly  
smooth, glossy, and of a bright green colour.  
The *Leaf-Stalks* about two inches long, up-  
right, round, smooth, naked below, above  
beset with bristly, horizontal, distant hairs.

FLOWERS small, in clusters, white or reddish, pro-  
ceeding from the creeping stalk near the  
ground out of the axæ of the leaf-stalks.

GENERAL PEDUNCLES single, little more than an  
inch in length, upright, round, slightly hairy,  
producing little balls or whorls rather than  
terminating in an umbel of flowers. *Stipulae*  
two, roundish, membranous, white, at the  
base of each peduncle.

FLORETS from 5 to 9, very small, standing on very  
short foot-stalks, a very minute leaf, narrow  
and tapering, placed under each floret.

PERIANTHIUM of each floret scarcely any.

COROLLA pentapetalous, a line in diameter, the  
PETALS ovate, pointed, entire, spreading,  
of a pale rose colour, *fig. 1, magn. 11. fig. 2.*

STAMINA: 5 Filaments, tapering, whitish, shorter  
than the corolla: ANTHERÆ very small and  
white, *fig. 3.*

PISTILLUM: GERMEN beneath the corolla upright,  
flattened, orbicular, somewhat three-cornered,  
*fig. 4.* crowned with a yellow fungous sub-  
stance; STYLES two, tapering, very short;  
STIGMATA bluntish, white, *fig. 5.*

SEED-VESSEL none, FRUIT orbicular, flattened,  
splitting in two.

SEEDS two, orbicular, flattened, of a pale brown  
colour.

The name of *White-Rot* has been given to this plant, from an idea of its being the cause of the rot in sheep, an opinion founded we apprehend more on conjecture than experiment; the real cause of that disease is we fear yet to be discovered, and will not be found perhaps to arise from their feeding on any particular plant.

It is extremely common on all boggy ground near London, and we believe in every part of Great-Britain. It flowers in July and August.

The fructification of this plant, which proves it truly to be related to the umbelliferi, is rarely seen without a close examination, being usually hidden by the leaves, but as it is plentifully produced, it may readily be discovered at the proper season.

The leaf affords an excellent example of what LINNÆUS calls the *folium peltatum*.





*Hydrocotyle vulgaris* |











*Galium verum*



# GALIUM VERUM. YELLOW LADIES-BEDSTRAW.

*Linn. Gen. Pl. TETRANDRIA MONOGYNIA.*

*Cor. monopetala, plana, Sem. duo, subrotunda.*

*Raii Syn. Gen. 12. HERBÆ STELLATÆ.*

**GALIUM** *verum* foliis octonis linearibus fulcatis, ramis floriferis brevibus. *Linn. Syst. Veg. ed. 14. Murr. p. 150. Sp. Pl. p. 155.*

**GALIUM** foliis linearibus, perangustis, octonis, racemis multifloris, spicatis. *Hall. Hist. n. 710. Scop. Fl. Carn. n. 153.*

**GALLIUM** luteum. *Bauh. Pin. p. 335. Ger. em. 1126. Park. 565. Raii Syn. p. 224. Yellow Ladies-Bedstraw, or Cheese-Rening. Hudf. Fl. Angl. ed. 2. p. 69.*

**RADIX** perennis, repens, tenuis, sublignosa, lutea.

**CAULIS** pedalis, ad bipedalem, erectus, obsolete tetragonus, parum flexuosus, geniculatus, scaber, inferne minus superne magis pubescens, pallide viridis, versus summum ramifusus; Genicula cylindracea, subovata, albida, margine tenui cincta; Rami brachiatis oppositi, alterni multo breviores, patulo-erecti, floriferi.

**FOLIA** subpollicaria, margini genicularum inserta, sessilia, verticillata, reflexo-patula, linearia, obtusiuscula, submucronulata, basi attenuata, margine utrinque revoluta, aculeisque minutis oculo armato tantum conspicuis fursum aspero, supra rugosiuscula, obscure viridia, nitentia, subtus canaliculata, pallidiora, inferiora plerumque octona, non raro dena, superiora septena, sena, quina, quaterna, suprema terna, bina, et ad ultimos pedicellos singula.

**FLORES** paniculati, numerosi, parvuli, flavi, peculiari odore fragrant.

**PANICULA** e ramis floriferis composita, spithamea, et ultra interrupta, ramosa, ramis multifloris, inæqualibus, foliosis, foliolis pedicellorum solitariis.

**CALYX** vix conspicuus, fig. 1.

**COROLLA** monopetala, rotata, patens, ungue nulla; laciniis quatuor, planis, subreflexis, distantibus, ovalibus, acutis, fig. 2.

**STAMINA**: FILAMENTA 4, capillaria, erecta, corolla breviora; ANTHERÆ rotundatæ, flavæ, peracto officio fuscæ, fig. 3.

**PISTILLUM**: GERMEN subrotundum, didymum, compressum, glabrum; STYLUS profunde bipartitus; STIGMATA capitata, fig. 4, 5, 6.

**PERICARPIUM**: BACCÆ duæ, ficcæ, globosæ, coalitæ.

**SEMINA** solitaria, subreniformia, rugosa.

**ROOT** perennial, creeping, slender, somewhat woody, of a yellow colour.

**STALK** from one to two feet high, upright, slightly four-cornered, a little crooked, jointed, rough, below slightly, above more obviously pubescent, of a pale green colour, branched towards the top; the joints cylindrical, somewhat ovate, whitish, surrounded with a slight margin; Branches cross-ways opposite, the alternate ones much the shortest, betwixt upright and spreading, flower-bearing.

**LEAVES** about an inch in length, inserted into the edge of the joints, sessile, whorled, spreading and somewhat turned back, linear, bluntish, with a slight point, narrowed at the base, the edge on each side rolled back, and rough with minute prickles turned upwards, which are visible only with a magnifier, above slightly wrinkled, of a deep green colour, glossy, underneath hollowed, of a paler colour, the lowermost growing usually eight in a whorl, not unfrequently ten, the upper ones decreasing to 7, 6, 5, 4, 3, 2, and even 1 at the extremities of the branches.

**FLOWERS** growing in a panicle, numerous, small, yellow, fragrant with a peculiar odour.

**PANICLE** composed of the flowering branches, about a span in length, interrupted, branched, branches many-flowered, unequal, leafy, the small leaves of the pedicles single.

**CALYX** scarcely visible, fig. 1.

**COROLLA** monopetalous, wheel-shaped, spreading, without any claw, divided into four segments, which are flat, a little turned back, distant, oval, and pointed, fig. 2.

**STAMINA** four capillary FILAMENTS, upright, shorter than the corolla; ANTHERÆ roundish, yellow, finally brownish, fig. 3.

**PISTILLUM**: GERMEN nearly round, double, flattened, smooth; STYLE deeply divided into two; STIGMATA two little heads, fig. 4, 5, 6.

**SEED-VESSEL**: two, dry, globular

**BERRIES** united together.

**SEEDS** single, somewhat kidney-shaped and wrinkled.

Grows plentifully in the neighbourhood of London, in dry hilly pastures, and on the borders of fields, flowering in June, July, and August.

We have seen the foliage of this plant, when all the surrounding herbage has been parched up, support the finest verdure; perhaps on this account it may be cultivated to advantage on such lawns as are apt in dry seasons to "disclose an arid hue."

An ingenious gentleman conversant in dying, assured me that it was a plant highly deserving of culture, as an article in that business; for that the roots, though not so large as those of Madder, produced a brighter colour, and that the whole of the herbage dyed a good yellow, in which respect it had the advantage over Madder.

The flowers of this plant have a moderately strong, not disagreeable smell, the leaves little or none: they both discover to the taste a sensible acidity, which they manifest also by changing the juices of blue flowers to a red, and by coagulating boiling milk: they are said to be in some places commonly made use of in this last intention, whence one of the common names of the plant *Cheese rennet*. Their acid matter appears to be (if BORRICHIIUS's experiment is to be depended on) of a more subtle kind than that of Sorrel, and than the other native vegetable acids that have been examined; the flowery tops committed to the still as soon as gathered, giving over a pretty strong acid liquor in a moderate heat, wherein Sorrel yielded only an insipid phlegm. The restraining and refrigerating virtues ascribed to this plant appear from these experiments to have some foundation. *Lewis's Mat. Med. p.* When it diffuses a stronger odour than common, it denotes, according to LOESEL, rainy and tempestuous weather.

This plant is subject to a disease, in which the stem and branches are set with fleshy balls, about the size of a pea, hollow within, and covered with a purplish skin. **WITHERING.**







# CHRYSANTHEMUM SEGETUM. CORN CHRYSANTHEMUM, or MARIGOLD.

*Linn. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

*Recept. nudum. Pappus marginatus. Cal. hæmisphericus, imbricatus, squamis marginalibus membranaceis.*

*Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO, DISCOIDE, SEMINIBUS PAPPO DESTI- TUTIS, CORYMBIFERÆ DICTÆ.*

CHRYSANTHEMUM *segetum* foliis amplexicaulibus, superne laciniatis, inferne dentato-ferratis. *Linn. Syst. Veg. ed. 14. Murr. p. 773. Sp. Pl. p. 1254.*

BELLIS lutea, foliis profunde incisfis, major. *Bauh. Pin. 262.*

CHRYSANTHEMUM *segetum. Ger. emac. 743. nostras. Park. 1370. segetum. Raii Syn. p. 182. Corn Marigold. Hudson Fl. Angl. ed. 2. p. 371.*

RADIX annua, tenuis, perpendicularis, parum fibrosa, albida.

CAULIS pedalis et ultra, erectus, ramosus, teretiusculus aut obsolete angulatus, glaber, nitens, glaucescenti-viridis, cavi, in pedunculos continuatus. Rami breviusculi.

FOLIA remotiuscula, alterna, sessilia, femiamplexantia, erecto-patula, variantia, oblonga aut oblongo-subovata, basi latiora, subagittata, subauriculata, nonnulla supra basin coarctata, versus apicem latiora, margine dentata, dentibus, nunc remotioribus nunc approximationibus aut laciniata, laciniis obtusiusculis, apice acuta, sæpe trifida, lævia, mollia, leviter venosa, utrinque glauca.

FLORES solitarii, flavi, magni.

PEDUNCULI suberecti, cavi, superne incrassati, uniflori.

CALYX *communis*, hemisphæricus, imbricatus, squamis arcte incumbentibus, ovatis, virescentibus, interioribus per gradus majoribus, intimis terminatis margine scariosa, tenuissima, membranacea, lacera, subfusca.

COROLLA composita, radiata; *Corollulæ* disci hermaphroditæ, numerosæ, longitudine calycis, tubulosæ, quinquefidæ, *fig. 2. Corollulæ* radii femineæ, circa 16 aut 18, ligulatæ, oblongæ, truncatæ, emarginatæ, sæpe tridentatæ, lineis duabus impressis exarata, *fig. 1.*

STAMINA *hermaphroditis*, FILAMENTA 5, capillaria, brevissima, flava; ANTHERA cylindracea, tubulosa, concolor, corolla paulo brevior.

PISTILLUM *hermaphroditis* uti *femineis*; GERMEN ovatum, compressum, margine membranaceum; STYLUS filiformis, staminibus longior, concolor; STIGMATA duo; revoluta, flava.

SEMINA oblonga, utrinque obtuse truncata, fulcata, subangulata, subincurva, pallide fusca, *fig. 3.*

RECEPTACULUM nudum, punctatum, convexum.

ROOT annual, slender, perpendicular, slightly fibrous, and whitish.

STALK a foot or more in height, upright, branched, nearly round or slightly angular, smooth, shining, of a glaucous green colour, hollow, continued into peduncles. Branches rather short.

LEAVES somewhat remote, alternate, sessile, half embracing the stalk, betwixt upright and spreading, variable, oblong, or oblong with a tendency to ovate, broadest at the base, somewhat arrowshaped and slightly ear'd, some of them narrowed above the base, and broadest towards the top, the edge toothed, the teeth sometimes nearer to each other, sometimes more remote, or jagged, the segments a little blunt, the extremity pointed, often trifid, smooth, soft, slightly veiny, and glaucous on both sides.

FLOWERS growing singly, yellow, large.

FLOWER-STALKS nearly upright, hollow, thickened above, one-flowered.

CALYX *common to all the florets*, hemispherical, imbricated, the scales lying closely one over the other, ovate, greenish, the inner gradually largest, the innermost ones terminated by a margin sonorous to the touch, very thin, membranous, torn, brownish.

COROLLA compound, radiate. *Florets* of the disk, hermaphrodite, numerous, the length of the calyx, tubular, divided into five segments, *fig. 2. Florets* of the radius female, about 16 or 18, flat, oblong, truncated, emarginate, often three-toothed, and scored with two impressed lines, *fig. 1.*

STAMINA in the *hermaphrodite florets*, five, capillary, very short FILAMENTS of a yellow colour; ANTHERÆ of the same colour, forming a tubular cylinder, a little shorter than the corolla.

PISTILLUM in the *hermaphrodite florets* the same as in the *female*; GERMEN ovate, flattened, margin membranaceous; STYLE thread-shaped, longer than the stamina, and of the same colour; STIGMATA two, rolled back, and yellow.

SEEDS oblong, obtusely truncated at each end, grooved, somewhat angular, a little bent, of a pale brown colour, *fig. 3, 4.*

RECEPTACLE naked, dotted, and convex.

The *Chrysanthemum segetum*, as its name imports, is a plant peculiar to corn fields; in the neighbourhood of London it is not frequent, but in many parts of England, as well as in other parts of Europe, in such soils as are favourable to its growth, it abounds to that degree as almost to annihilate the crop sown; hence laws have been enacted, and fines imposed, in Denmark, Saxony, and some parts of Scotland, for the purpose of obliging the husbandman to keep his lands clear of it.

The weeding of corn fields from such incroaching plants as the present, either by the hand, or the weeding-hook, according to the nature of the plant, is a practice much followed in those countries which are best cultivated: there is this satisfaction attends it, while it promotes the Farmer's interest, it gives employment to a great number of industrious women and girls. To the prevalence of this practice it is that we are indebted for one of the finest sights a cultivated country affords, extensive fields of corn, without a single obtruding weed; and on this practice the Farmer we apprehend may place a firmer reliance, than on the mode which LINNEUS recommends for its extirpation, viz. by dunging the land, suffering it to lie fallow for one year, and harrowing it five days after sowing the corn.

It is not a little remarkable, that this plant should never have been found with double flowers; if it had, there is no doubt, but from the brilliancy of their colour, it would long since have contributed to ornament our gardens as well as the *C. coronarium* and *inodorum*, which are of the same genus.





*Chrysanthemum Legetum*









*Caulis Anthriscus.*



# CAUCALIS ANTHRISCUS. HEDGE CAUCALIS.

Hudson Fl. Angl. ed. 2. p. 112. PENTANDRIA DIGYNIA.

Corollæ radiatæ. Fructus subovatus, striatus, fetis rigidis hispidus.

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

CAUCALIS *Anthriscus* involucris multifidis\*, umbella conferta, feminibus oblongis, foliolis ovatis pinnatifidis, ramis erectis. Hudson Fl. Angl. ed. 2. p. 12.

TORDYLIUM *Anthriscus* umbellis confertis, foliolis ovato-lanceolatis, pinnatifidis. Linn. Syst. Vegetab. p. 275. Mantif. 350. Jacq. Fl. Austr. v. 3. t. 251.

CAUCALIS foliis duplicato-pinnatis, nervo multoties latioribus. Hall. Hist. n. 741.

CAUCALIS *Anthriscus*. Scopoli Fl. Carn. n. 311.

CAUCALIS femine aspero flosculis rubentibus. Baub. Pin. 153.

CAUCALIS minor flosculis rubentibus. Ger. emac. 1022.

CAUCALIS minor flore rubente. Parkins. 921.

ANTHRISCUS quorundam femine aspero hispido. J. B. III. 2. 83. Raii Syn. ed. 3. p. 219. An. 4. Hedge Parsley.

RADIX annua, tenuis, fusiformis, parum fibrosa, extus flavicans, intus alba.

CAULIS 4—6 pedalis, erectus, subflexuosus, teres, purpurascens, scaber, fetis minutis rigidis vix visibilibus deorsum appressis vestitus, ramosus. Rami plures, alterni, suberecti.

FOLIA pauca, fere palmaria, remota, patentissima, duplicato-pinnata, ad apices deflexa, petiolata, petiolis canaliculatis, basi latiore subvaginantibus; *Pinnarum* tria, quatuorve paria, cum impari, ovata, acuta, inferiores petiolata, latiores, sequentes sessiles, breviores, angustiores, extrema longissima, lineari-lanceolata; *Foliola* inciso-ferrata acutiuscula, fetis minutis conspicuis tamen obsita.

FLORES in umbellis mediocribus planis, albi aut rubentes, inodori.

UMBELLA *universalis* planiuscula, rara, inæqualis, radiis circiter octo; *partialis* paulo densior, convexuscula, inæqualis, radiis 12 aut pluribus, exterioribus longioribus, omnibus fetis sursum appressis hispidis.

INVOLUCRUM: *universale* polyphyllum, dimidia radiorum longitudine, foliolis radiorum plerumque numero, linearibus, acutis, margine membranaceo, albido; *partiale* polyphyllum, foliolis confimilibus, appressis, longitudine umbellularum.

PERIANTHIUM proprium 5-dentatum, exiguum sepæ inter pilos reconditum.

COROLLA: *universalis* difformis, radiata; *Flosculi* disci abortivi; *propria disci* mas, parva, petalis 5 inflexo-cordatis, æqualibus; *propria radii* hermaphrodita, petalis 5, inflexo-cordatis, patentissimis, subtus villosiusculis, extimis paucis majoribus, bifidis, fig. 1. auct.

STAMINA omnibus, FILAMENTA 5, capillaria, petalis paulo longiora; ANTHERÆ parvæ, didymæ, purpureæ, fig. 2.

PISTILLUM: GERMEN oblongum, inferum, hispidum; STYLI duo, breves, patentes, demum reflexi; STIGMATA duo, obtusa.

PERICARPIUM nullum: Fructus parvus, ovatus, leviter compressus, fig. 4.

SEMINA duo, hinc gibba, trifurca, fetis rigidis sursum arcuatis albis aut rubellis hispida, illinc linea glabra longitudinaliter excavata, fig. 5.

ROOT annual, slender, tapering, slightly fibrous, yellowish without and white within.

STALK from 4 to 6 feet high, upright, a little crooked, round, purplish, rough, covered with minute rigid bristles, pressed downwards to the stalk, and scarcely visible, branched. The Branches numerous, alternate, and nearly upright.

LEAVES few, a hand's-breadth nearly in length, distant, spreading greatly, doubly pinnated, turned downwards at the tips, standing on footstalks, which are hollowed above, broader at the base and somewhat sheathing; *Pinnæ* three or four pair, with an odd one, ovate, pointed, the lower ones standing on footstalks, broader, the upper ones sessile, shorter, narrower, the outermost very long, betwixt linear and lanceolate; the *small Leaves* of which they are composed inciso-ferrated, a little pointed, covered with very minute yet visible setæ.

FLOWERS white or reddish, without scent, growing in middle-sized flat umbels.

UMBEL: the *universal* one flattish, thin, unequal, with about eight rays; the *partial* one a little thicker, somewhat convex, unequal, with about twelve or more rays, the outermost longest, all of them hispid with setæ pressed upwards.

INVOLUCRUM: the *universal* one composed of many leaves, about half the length of the rays, the leaves usually as numerous as the rays, linear, pointed, the margin membranous and white; the *partial* one composed of many leaves, similar to the others, pressed to the rays, the length of the small umbels.

PERIANTHIUM of each floret 5-toothed, minute, often hid among the hairs.

COROLLA: the *general* one misshapen, radiated; *Florets* of the disk abortive; *each floret of the disk* male, small, of 5 petals, inflexo-cordate, equal; *each floret of the radius* hermaphrodite, of 5 petals, inflexo-cordate, very widely spreading, on the under side slightly villous, the outermost ones somewhat largest and bifid, fig. 1. magn.

STAMINA in all the flowers, 5 capillary FILAMENTS, a little longer than the petals; ANTHERÆ small, double, and purple, fig. 2.

PISTILLUM: GERMEN oblong, beneath the corolla, hispid; STYLES two, short, spreading, finally bowed back; STIGMATA two, blunt.

SEED-VESSEL none: Fruit small, ovate, slightly flattened, fig. 4.

SEEDS two, on one side gibbous, with three grooves, hispid with rigid bristles of a white or red colour, bowed upwards, on the other side marked longitudinally with one smooth hollow groove, fig. 5.

\* We presume Mr. HUDSON means polyphyllis.



The *Caucalis Anthriscus* approaches so near to the *infesta* already figured, as sometimes to occasion some little difficulty in distinguishing the two: this difficulty did not escape the observation of RAY, who with uncommon accuracy has pointed out the peculiarities of each in his *Hist. Plant.* which we shall place before our readers, nearly in his own words.—“ 1st, The *Anthriscus* is the taller plant, growing to the height of two cubits (three feet); the *infesta*, more dwarf, scarcely ever exceeds a foot, or one cubit at farthest. 2dly, The *Anthriscus* is more upright, with longer internodes; the *infesta*, with a more crooked stalk, has more numerous joints. 3dly, The stalk of the *Anthriscus* is more hirsute near the ground than that of the *infesta*. 4thly, The florets of the *Anthriscus*, which are white, or of a pale red colour, have petals nearly equal in size, with purple antheræ; the florets of the *infesta* are white, verging to yellow; the two outermost petals are very manifestly larger than the rest, and the antheræ white. 5thly, The seeds of the *infesta* are by far the largest, and the little tips on the crown of the seed green; those of the *Anthriscus* are more fragrant, more aromatic, and of a duller colour with purple tips. Lastly, The *Anthriscus* is seldom found but in hedges and among bushes, while the *infesta* is never found in hedges, but for the most part among corn.”

These distinctions, as far as we have observed, are perfectly just, and worthy of their author; we shall only observe in addition, that when we have been at a loss for a distinction, the most ready one has been afforded by the presence of the involucre, from which Mr. HUDSON has judiciously taken a part of its specific character: the leaves of this, however, though always present, are sometimes so closely pressed to the radii, as not to be immediately visible; the styles too, in general, are bent or bowed back to a greater degree than in the *infesta*.

This plant is very common in the neighbourhood of London, in the situations RAY describes, flowering in July. Though the *infesta* may sometimes prove a troublesome weed, this, from its place of growth, is in no degree such.

SCOPOLI observes, that as the seed is not flat, nor has a margin, it cannot be considered as a *Tordylium*; he remarks also, that he has seen the cultivated plant with an involucre of one leaf, and without any; as this is quite contrary to our experience, we suspect he was deceived by the leaves of the involucre being pressed close to the radii, which, as we have before observed, very often happens.





# LATHYRUS SYLVESTRIS. NARROW-LEAV'D VETCHLING, OR EVERLASTING-PEA.

LATHYRUS Linn. Gen. Pl. DIADELPHIA DECANDRIA.

*Stylus* planus, supra villosus, superne latior. *Cal.* laciniae superiores  
2 breviores.

*Raii Syn. Gen.* 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LATHYRUS *sylvestris* pedunculis multifloris, cirrhis diphyllis; foliolis ensiformibus, internodiis  
membranaceis. Linn. *Syst. Vegetab.* p. 663. *Sp. Pl.* 1033. *Fl. Suec.* n. 644.

LATHYRUS caule alato, foliis geminis ensiformibus. Haller *Hist.* 434.

LATHYRUS *sylvestris*. Scopoli *Fl. Carn.* n. 892.

LATHYRUS *sylvestris* major. Baub. *Pin.* 344.

LATHYRUS *sylvestris* Dodonæi. Park. 1061.

LATHYRI majoris species flore rubente et albido minore dumetorum, five Germanicus. J. B. II. 302.  
*Raii Syn.* p. 319. Hudson *Fl. Angl.* p. 317. Lightfoot *Fl. Scot.* p. 392.

RADIX perennis.  
CAULIS orgyalis, et ultra, scandens, ramosus, alatus,  
lævis.  
FOLIA petiolata, bina, ensiformia, mucronata, subtus  
trinervia, basi glandulosa.  
  
PETIOLI triquetri, alati.  
CIRRHII plerumque trifidi.  
STIPULÆ lineari-lanceolatæ, basi hamatæ.  
  
PEDUNCULI spithamei, subangulati, nudj, multi-  
flori.  
FLORES racemosi, 5 ad 10.  
BRACTEÆ subulatæ.  
PEDICELLI breves, nutantes, colorati.  
  
CALYX: PERIANTHIUM monophyllum, subcampanu-  
latum, quinque-dentatum, quinquenerve, den-  
tibus duobus superioribus brevibus, incurvis,  
tribus inferioribus rectis, longioribus, fig. 1.  
  
COROLLA papilionacea; VEXILLUM amplum, emar-  
ginatum, roseum, venis obsolete reticulatum,  
fig. 2. ALÆ oblongæ, obtusæ, violaceæ, carinæ  
adherentes, fig. 3. CARINA ex albido-virescens,  
subtortuosa, fig. 4.  
STAMINA: FILAMENTA decem (simplex et novem  
fidum) decimum subliberum, obliquum; AN-  
THERÆ flavæ.  
PISTILLUM: GERMEN oblongum, compressum;  
STYLUS sursum erectus, superne latior;  
STIGMA antice villosum.  
PERICARPIUM: LEGUMEN subbiunciale, semunciam  
fere latum, compressum, læve, fuscum, poly-  
spermum, fig. 5.  
SEMINA numerosa, ad 10 aut 12, subrotunda, nigri-  
cantia, fig. 6.

ROOT perennial.  
STALK six feet, or more in height, climbing, branched,  
winged, and smooth.  
LEAVES standing on footstalks, two together, sword-  
shaped, terminating in a short point, beneath  
three-ribbed, glandular at the base.  
LEAF-STALKS three-sided and winged.  
TENDRILS for the most part trifid.  
STIPULÆ betwixt linear and lanceolate, hooked or  
bearded at bottom.  
FLOWER-STALKS a span long, somewhat angular,  
naked, and supporting many flowers.  
FLOWERS growing in a bunch, from 5 to 10.  
FLORAL LEAVES awl-shaped.  
PARTIAL FLOWER-STALKS short, drooping,  
and coloured.  
CALYX: a PERIANTHIUM of one leaf, somewhat  
bell-shaped, having five teeth and five ribs,  
the two uppermost teeth short and bent to-  
wards each other, the three lowermost straight  
and longer, fig. 1.  
COROLLA papilionaceous; STANDARD large, emar-  
ginate, rose-coloured, faintly reticulated with  
veins, fig. 2: WINGS oblong, obtuse, violet-  
coloured, adhering to the keel, fig. 3. KEEL of  
a whitish-green colour, a little twisted, fig. 4.  
STAMINA: ten FILAMENTS (nine connected, one  
single) the tenth or single one nearly free,  
oblique; ANTHERÆ yellow.  
PISTILLUM: GERMEN oblong, flattened; STYLE  
bent upwards, broadest at top; STIGMA an-  
teriorly villous.  
SEED-VESSEL: a POD about two inches long, and  
nearly half an inch wide, flattened, smooth,  
brown, containing many seeds, fig. 5.  
SEEDS numerous, from 10 to 12, nearly round, and  
blackish, fig. 6.

In the neighbourhood of London this species is rare; we have found it sparingly in the Oak of Honour wood near Peckham: in many parts of Kent, in the hedges by the road sides, it grows abundantly.

Though greatly inferior in beauty to the *Lathyrus latifolius*, it has been thought sufficiently ornamental for the flower-garden, in which we frequently find it.

It flowers in June and July; being a hardy perennial, it requires little care in its cultivation; from its size it is rather adapted to the shrubbery or plantation than the flower-garden.





*Lathyrus sylvestris*

*Hist. Nat. Angl. by W. Curtis. St. George's College.*









*Omithopus perpusillus.*

*Pub Jan 2 1791 by W. Clark Sc' Georges Orfcent.*



# ORNITHOPUS PERPUSILLUS. COMMON BIRD'S-FOOT.

ORNITHOPUS Linn. Gen. Pl. DIADELPHIA DECANDRIA.

*Legumen articulatum, teres, arcuatum.*

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

ORNITHOPUS *perpusillus* foliis pinnatis, leguminibus incurvatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 670. Spec. Pl. p. 1049.

ORNITHOPODIUM caule prostrato, foliis pinnatis, filiquis umbellatis, articulatis. Hall. Hist. n. 393.

ORNITHOPODIUM majus —, minus —, radice tuberculis nodosa. Baub. Pin. 350.

ORNITHOPODIUM minus. Ger. emac. 1241.

ORNITHOPODIUM radice nodosa. Park. 1093. Raii Syn. p. 326. Bird's-foot. Hudson Fl. Angl. ed. 2. p. 321. Lightfoot Fl. Scot. p. 399.

RADIX annua, tenuis, fibrosa; fibris longis, albidis, tuberculiferis.	ROOT annual, slender, fibrous; fibres long, whitish, beset with tubercles.
CAULES plures, subpalmares, prostrati, simplices, teretes, pubescentes.	STALKS several, about a hand's-breadth in length, prostrate, simple, round, downy.
FOLIA pinnata, radicalia prostrata, subpetiolata, caulina alterna, sessilia; foliola 6 ad 9 juga, sæpe cum impari, ovalia, subcarinata, per lentem pilosa.	LEAVES pinnated, the radical ones spread on the ground, and standing on short footstalks, those of the stalks alternate, sessile, composed of from 6 to 9 pair of pinnæ, and often terminated by an odd one, oval, somewhat keeled, and hairy if magnified.
FLORES parvi, ex albo, rubro, et luteo pulchre variegati; pedunculi ex axillis foliorum 3-5 flori, longitudine folii.	FLOWERS small, prettily variegated with white, red, and yellow, peduncles proceeding from the axæ of the leaves and of the same length, supporting from three to five flowers.
CALYX: UMBELLA simplex. PERIANTHIUM monophyllum, tubulatum, pilosum, persistens, ore quinquedentato, subæquali, fig. 1.	CALYX: the UMBEL simple. The PERIANTHIUM monophyllous, tubular, hairy, permanent, the mouth having five teeth, nearly equal, fig. 1.
COROLLA papilionacea: VEXILLUM obcordatum, vix emarginatum, album, venis rubris pictum, fig. 2. ALÆ ovata, rectæ, albæ, magnitudine vix vexilli, fig. 3. CARINA compressa, flavescens, minima, fig. 4.	COROLLA papilionaceous: the STANDARD obcordate, scarcely emarginated, white, marked with red veins, fig. 2. WINGS ovate, straight, white, scarcely so long as the standard, fig. 3. KEEL flattened, yellowish, very minute, fig. 4.
STAMINA: FILAMENTA diadelphe, simplex et novemfidum, fig. 5. ANTHERÆ simplices, flavescens, fig. 6.	STAMINA: FILAMENTS diadelphous, nine united, one single, fig. 5. ANTHERÆ simple and yellowish, fig. 6.
PISTILLUM: GERMEN lineare, viride; STYLUS setaceus, ascendens; STIGMA punctum terminale, ad lentem subcapitatum, fig. 7.	PISTILLUM: GERMEN linear, green; STYLE tapering, ascending; STIGMA a terminal point, forming when magnified a little head, fig. 7.
PERICARPIUM: LEGUMEN subulatum, teres, arcuatum, articulatum, isthmisque interceptum, articulatum discedens, fig. 8, 9.	SEED-VESSEL: an awl-shaped, round, bowed, jointed POD with cross divisions, separating at the joints, fig. 8, 9.
SEMINA solitaria, subrotunda, fig. 10.	SEEDS one in each joint, roundish, fig. 10.

The *Ornithopus perpusillus* abounds on most of the heaths and commons near London, especially where the soil is gravelly or sandy.

It flowers from June to September.

The beauty of its flowers when closely examined, and the striking similitude which the seed-vessels bear to the claws of a bird, render it an object highly deserving of attention.

It varies greatly in point of size; the little knobs adhering to the roots are common to plants of the leguminous kind.







# GERANIUM PARVIFLORUM. SMALL-FLOWERED CRANE'S BILL.

GERANIUM. Linn. Gen. Pl. MONADELPHIA DECANDRIA.

Monogyna. Stigmata 5. Fructus rostratus, pentacoccus.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *parviflorum* caule subpubescente, floribus pentandris, petalis emarginatis, arillis lævibus pilis appressis velutis.

GERANIUM *pusillum* pedunculis bifloris, petalis bifidis, caule depresso, foliis reniformibus palmatis linearibus acutis. Linn. Syst. Veg. p. 618. Spec. Plant. p. 957. Mantiss. 435. Burm. Geran. 23.

GERANIUM *pusillum* caule herbaceo ramofo, foliis subrotundo-lobatis, lobis trifidis, floribus minimis pentandris cœruleis. Cavanilles Diss. p. 202. tab. 83. f. 1.

GERANIUM foliis hirsutis, semiseptilobis, lobis semitrilobis, obtusis. Hall. Hist. 940.

GERANIUM *malvæfolium*. Scopoli Fl. Carniol. ed. 2. n. 847.

GERANIUM *columbinum majus*, flore minore cœruleo. Raii Hist. Plant. p. 1059. Synops. p. 358. The greater blue-flowered Dovesfoot-Cranesbill. Vaill. Paris. tab. 15. f. 1.

RADIX annua, teres, fibrosa, rubescens.

CAULES diffusi, subpedales, teretes, pallide virides aut subrubentes, vix pubescentes, ramofo.

FOLIA subrotunda, septemfida, laciniis patentibus, trifidis, obtusis, quibusdam profundius partitis, sinibus acutiusculis; venosa, villosa, mollia, pallide viridia; radicalia longissime petiolata; caulina opposita, magnitudine inæqualia, longitudine pedunculis subæqualia, laciniis acutioribus.

STIPULÆ lanceolatae, basi latae, rubrae, nitentes, laciniis acutis, ciliatis.

FLORES minuti, purpureo-cœrulei.

PEDUNCULI subunciales, axillares, solitarii, biflori.

BRACTEÆ seu Involucra stipulis similia, modo breviora.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, acutis, sursum pilosis, striatis, albo marginatis; duobus exterioribus latioribus, fig. 1.

COROLLA calyce paulo major, campanulato-hians, petalis 5 obcordatis, emarginatis, fig. 2.

NECTARIUM: GLANDULÆ 5 virides, cum petalis alternantes, fig. 3. auct.

STAMINA: FILAMENTA decem germen cingentia, quorum quinque longiora, fertilia, quinque altera breviora, sterilia, fig. 4, 5. ANTHERÆ quinque, subovatae, cœruleae, fig. 6.

PISTILLUM uti in affinibus, fig. 7.

SEMINA solitaria, reniformia, glabra, arillata, rufa. ARILLI caudati, pallide fusci, læves, pilis albis, longitudinaliter adpressis, obsoleti, fig. 8. auct. fig. 9.

ROOT annual, round, fibrous, reddish.

STALKS spreading, about a foot long, pale green, or sometimes reddish, very slightly downy, branched.

LEAVES roundish, divided into seven lobes, the lobes trifid, obtuse, some of them more deeply divided, the sinuses rather acute; veiny, villous, soft, pale green; the radical ones on very long footstalks; the stalk-leaves opposite, of an unequal size, nearly as long as the peduncles, their lobes more acute.

STIPULÆ lanceolate, broad at bottom, red, shining, segments sharp, edged with hairs.

FLOWERS very small, of a purplish blue colour.

PEDUNCLES from the axilla, about an inch long, two-flowered.

BRACTEÆ or Involucra like the stipulæ, but smaller.

CALYX: a PERIANTHIUM of five leaves, which are ovate, acute, covered with hairs which point upwards, striated, with a white margin, the two outer ones wider than the rest, fig. 1.

COROLLA a little larger than the calyx, bell-shaped and open, consisting of five obcordate, emarginated petals, fig. 2.

NECTARY: five green GLANDULES, placed alternately with the petals, fig. 3. magnified.

STAMINA: ten FILAMENTS surrounding the germen, five of which are longer and fertile, the other five shorter and sterile, fig. 4, 5. The five ANTHERÆ are nearly ovate, and blue, fig. 6.

PISTILLUM as in the other, fig. 7.

SEEDS solitary, kidney-shaped, smooth, reddish, covered with an arillus. The ARILLUS pale brown, smooth, with white longitudinal hairs pressed closely to it, fig. 8. magnified at fig. 9.

While some Botanists have confounded this species with the *molle* already figured in this work, others have mistaken it for the *rotundifolium*, from both of which it is specifically different: RAY and VAILLANT, among the older Botanists, appear to have had a perfectly clear idea of it, as is evident from the description of the one and the figure of the other; in the third edition of RAY's *Synopsis*, DILLENIIUS has described and figured a plant which he calls *Geranium columbinum humile flore cœruleo minimo*; this plant was first adopted by LINNÆUS in his *Spec. Plantar.* under the name of *pusillum*, as appears from his referring to this very figure, a name applicable enough to DILLENIIUS's plant as figured by him, but not to RAY's and VAILLANT's, which is the one here intended. Whether DILLENIIUS's plant be a flinted variety of ours, or a distinct species, we shall not take upon us at present to determine; if the former, his figure, like that of his *Cerastium semidecandrum*, has contributed greatly to mislead; if the latter, the name of *pusillum* would appear to be a very proper one, and may at any time be made use of.

Notwithstanding there are strong reasons for supposing, from observations made in the latter works of LINNÆUS, that our plant is his *pusillum*, we have thought a name so very inapplicable ought not to remain as a stumbling-block, and have therefore substituted *parviflorum*, as coinciding with RAY's description.

Having already described this plant minutely, we shall only mention a few of the striking characters in which it differs from the *molle*; in what respect it varies from *rotundifolium*, will be particularly specified when we figure that plant.

At first sight it differs from the *molle*, in having its leaves more divided, of a paler and more yellow colour, its blossoms much smaller, of a bluer and less brilliant hue; more closely examined, the stalks are scarce perceptibly hairy, or but slightly pubescent, the leaves in general grow opposite, frequently not so towards the top of the stalks, and are more open behind; the stamina bearing antheræ are never more than five, and the arillus, or coat of the seed, instead of being transversely wrinkled, as we have figured it in the *molle*, is comparatively smooth: for this latter distinction, which is a very essential one, and indeed, I may say, for the discovery of the plant, I am indebted to the superior discernment of my much-esteemed and ingenious friend Mr. DAVAL, of Orbe in Switzerland.

On the West side of London, particularly in the neglected gardens, and fallow-fields about Little-Chelsea, where the soil is light, this species is quite a weed; on the Eastern side, at least near the metropolis, it is more rarely found: in many parts of England it grows equally common with the *molle*, than which it usually forms a larger tuft, and sometimes varies with white flowers.

It blossoms in June and July.





*Geranium parviflorum*









*Carex centricosa*

W. Edwards del.

W. Darter sculp.



# CAREX VENTRICOSA. TURGID CAREX.

CAREX. Linn. Gen. Pl. MONOECIA TRIANDRIA.

Masc. *Amentum* imbricatum. Cal. monophyllus. Cor. 6.

Fem. *Amentum* imbricatum. Cal. monophyllus. Cor. 6. *Nectarium* inflatum tridentatum. *Stigmata* tria. Sem. triquetrum intra nectarium.

Raii Syn. Gen. 28. HERBÆ GRAMINIFOLIÆ NON CULMIFERÆ FLORE IMPERFECTO SEU STAMINEO.

CAREX *ventricosa*, spicis pedunculatis erectis, mascula solitaria, femineis remotis paucifloris, capsulis turgidis rostratis.

CYPEROIDES nemorosum, caule exquisitè triangulari, spicis parvis strigosis, inter se distantibus, squamis latis, derepentè in aristam longiusculam attenuatis, capsulis rariùs dispositis turbinatis gibbis trilateris cum rostrulo adunco. Michel. Nov. Gen. p. 61. tab. 32. fig. 5.

RADIX perennis, fibrosa.

CULMUS pedalis ad sesquipedalem, erectus, foliosus, triquetus.

FOLIA patulo-erecta, lineas duas lata, carinata, lævia, margine aspera, basi vaginantia, sub florentia culmo longiora.

## FLOS MASCULUS.

SPICA terminalis, solitaria, subuncialis, erecta, multiflora, ebracteata, subfusca.

CALYX: SQUAMA subovata, acuminata, dorso viridi, lateribus ex albo et fusco variegatis, fig. 1.

STAMINA: FILAMENTA tria, capillaria, calyce longiora. ANTHERÆ longæ, lineares, fig. 2.

## FLOS FEMINEUS.

SPICÆ plerumque tres, remotiusculæ, spica mascula dimidio breviores, oblongo-ovata, subquadri-floræ, pedunculatæ, bracteata. PEDUNCULI compressi, superne incrassati. BRACTEÆ foliis similes, culmum superantes.

CALYX: SQUAMA lanceolata, acuta, dorso viridi, lateribus albis nitentibus, fig. 3.

NECTARIUM oblongum, extus convexum, intus concavum, rostratum, pistillum arcte cingens, fig. 4.

PISTILLUM: GERMEN obovatum intra nectarium, fig. 5. STYLUS germine duplo longior, fig. 6. STIGMATA tria, patentia villosa, fig. 7.

PERICARPIUM: CAPSULA triquetro-gibba, turgida, striata, utrinque acuta, rostro apice membranaceo, fig. 8.

SEMINA solitaria, magna, hinc convexa, inde planiuscula, fig. 9. intra nectarium.

ROOT perennial and fibrous.

STALK from a foot to a foot and a half high, upright, leafy, and three-cornered.

LEAVES upright, somewhat spreading, two lines wide, keeled, smooth, rough on the edge, sheathing at the base, higher than the stalk, when the plant flowers.

## MALE FLOWER.

SPIKE terminal, solitary, about an inch long, upright, many-flowered, without a bractea, brownish.

CALYX: SCALE somewhat ovate, acuminate, green at the back, the sides variegated with white and brown, fig. 1.

STAMINA: three FILAMENTS, capillary, longer than the calyx. ANTHERÆ long, linear, fig. 2.

## FEMALE FLOWER.

SPIKES mostly three, remote, half the length of the male one, oblongo-ovate, mostly four-flowered, standing on flower-stalks, and furnished with bractea. FLOWER-STALKS compressed, thickened above. BRACTEÆ resembling the leaves, higher than the stalk.

CALYX: SCALE lanceolate, acute, green at the back, the sides white, shining, fig. 3.

NECTARY: oblong, the outside convex, the inside concave, closely surrounding the pistillum, fig. 4.

PISTILLUM: GERMEN obovate, within the nectary, fig. 5. STYLE double the length of the germen, fig. 6. STIGMATA three, spreading, villous, fig. 7.

PERICARPIUM: a CAPSULE three-cornered, gibbous, striated, turgid, pointed at both ends, with a beak membranaceous at the point, fig. 8.

SEEDS single, large, convex on one side, flattish on the other, fig. 9. within the nectary.

My much-valued friend, the Rev. Dr. GOODENOUGH of Ealing, has the merit of discovering the Carex here figured; we were herbarizing together, in company with the Rev. Dr. WHITFIELD, in a small wood at the back of Charlton Church, when a single plant of it first caught his eye, and on further search we found it in one part of the wood in abundance; Mr. DICKSON informs me that he has observed the same species growing wild near Godalming, Surrey; and we are informed that it has also been found by Mr. SOLE, of Bath.

The late Rev. Mr. LIGHTFOOT, who had seen it growing with me, was pleased to call it *depauperata*, from the paucity of its flowers, a name in which we sometime acquiesced; but, on maturer consideration, we think the name we have now given it more expressive of its principal character.

It affects the same situation as the *sylvatica*, to which, in its foliage, it bears some little resemblance, but when it comes to shew its seed-vessels it cannot easily be mistaken for any other British Carex.

It flowers about the latter end of May, but is most conspicuous towards the middle of June, when its seed-vessels are advanced.







# URTICA DIOICA. COMMON NETTLE.

URTICA. Linn. Gen. Pl. MONOECIA TETRANDRIA.

MASC. Cal. 4-phyllus. Cor. o. Nectarium centrale, cyathiforme.

FEM. Cal. 2-valvis. Cor. o. Sem. 1. nitidum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALO POTIUS.)

URTICA *dioica*, foliis oppositis cordatis, racemis geminis. Linn. Syst. Veg. p. 849. Spec. Pl. 1396. Fl. Succ. 863. Scopoli Fl. Carn. ed. 2. n. 1175.

URTICA stirpibus sexu distinctis, foliis ferratis, ovato-lanceolatis, productis. Hall. Hist. 1614.

URTICA major vulgaris, J. Baub. III. 445. major vulgaris et media sylvestris. Park. 440. urens. Ger. emac. 706. maxima. Baub. Pin. 232.

URTICA racemifera major perennis. Raii Syn. p. 139. Common Stinging-Nettle. Hudf. Fl. Angl. p. 418. Lightf. Fl. Scot. p. 578.

RADIX perennis, repens, teretiuscula, subfulcata, tenax, flavescens, geniculata, fibras majusculas e geniculis emittens.

CAULES plures, bi ad quadripedales, erecti, vix ramosi, obtuse tetragoni, quadrifurcati, pilis rigidis hispidi.

FOLIA opposita, petiolata, cordata, acuminata, late serrata, supra rugosa, venosa, utrinque pilis subulatis, urentibus hispida.

STIPULÆ quatuor, patentes, lineares, obtusiusculæ, subtus compresso-canaliculatæ.

FLORES dioici, in racemis quaternis, ramosis, deflexis, pubescenti-hispidis, glomeratim dispositi,

## MASCULI FLORES.

CALYX: PERIANTHIUM quadripartitum, laciniis patentibus, ovatis, obtusis, concavis, subtus scabris, fig. 1.

COROLLA nulla.

NECTARIUM in centro floris, turbinatum, subdiaphanum, apice obtusum, perforatum,

STAMINA: FILAMENTA quatuor, subulata, longitudine calycis, patentia, intra singulam laciniam calycinam singula, instante anthesi elastice profiliencia, ANTHERÆ biloculares, albæ, fig. 2.

## FEMINEI FLORES.

CALYX: PERIANTHIUM quadripartitum, persistens; laciniis duabus interioribus majoribus, germen cingentibus; duabus exterioribus minimis, patentibus, fig. 3.

COROLLA nulla.

PISTILLUM: GERMEN ovatum. STYLUS nullus. STIGMA patens, penicilliforme, album, fig. 4, 5.

PERICARPIUM nullum. Calycis laciniae internæ, conniventes, fig. 6. includunt.

SEMEN unicum, ovatum, obtuso-compressum, nitidum, fig. 7, 8.

ROOT perennial, creeping, roundish, slightly furrowed, tough, yellowish, jointed, sending down from the joints some pretty large fibres.

STALKS many, from two to four feet high, upright, very little branched, bluntly quadrangular, each side furrowed, beset with rigid hairs.

LEAVES opposite, standing on foot-stalks, heart-shaped, acuminate, widely serrated, the upper side wrinkled and veiny, on both sides beset with awl-shaped, stinging hairs.

STIPULÆ four, spreading, linear, bluntish, the under side compressed and channelled.

FLOWERS dioicous, dispersed in small clusters, in racemi growing four together, which are branched, bending downward, and beset with fine as well as coarse hairs,

## MALE FLOWERS.

CALYX: a PERIANTHIUM divided into four segments, spreading, ovate, obtuse, concave, beneath roughish, fig. 1.

COROLLA none.

NECTARY in the centre of the flower, turbinated, almost transparent, blunt and perforated at the top.

STAMINA: four FILAMENTS awl-shaped, length of the calyx, spreading, one in each segment of the calyx, on shedding of the pollen springing out by their elasticity. ANTHERÆ bilocular, whitish, fig. 2.

## FEMALE FLOWERS.

CALYX: a permanent PERIANTHIUM divided into four segments; the two inner ones larger, surrounding the germen; the two outer ones very small, spreading, fig. 3.

COROLLA none.

PISTILLUM: GERMEN ovate. STYLE none. STIGMA spreading, feathery, white, fig. 4, 5.

SEED-VESSEL none. The two inner segments of the Calyx closing and including the seed, fig. 6.

SEEDS single, ovate, blunt, compressed, whitish, shining, fig. 7, 8.

The name of *dioica* is given to this species of Nettle, from its producing male flowers on one plant, and female on another; it is however not always dioicous, as we have frequently observed female flowers on the male plant in great numbers.

It grows abundantly by the sides of hedges, in neglected fields, gardens, and pastures, and flowers from June to September.

Baron HALLER has observed, that in its fructification it has great affinity with the *Parietaria*, which is certainly just; the pollen in particular is discharged in the same curious way. (See *Parietar. offic.* already figured.)

The genus *Urtica* is a numerous one, there being twenty-eight species enumerated in the 14 ed. of LINNÆUS's *Systema Vegetabilium*; all of which however do not sting, as the three species indigenous to this country are well known to do: the naked eye readily perceives the instruments by which the Nettle infils its poison; a microscope of no great magnifying power more plainly discovers them to be rigid, transparent, tubular setæ, prickles, or stings, highly polished and exquisitely pointed, furnished at their base with a kind of bulb, in which the juice is principally contained, and which being pressed on when the sting enters the skin, forces the poison into the wound; of the venomous quality of this liquid, and of the manner in which it is emitted, I have had ocular proof: placing the footstalk of a Nettle leaf\* (the prickles being more manageable, and better adapted to the microscope than those on the leaves or stalks) on the stage of the microscope, so that the whole of the prickle was in the focus when horizontally extended, I pressed on the bulb with a blunt-pointed pin, and, after some trials, found a liquid to ascend in the prickle, somewhat as the quicksilver does when a warm hand is applied to the

\* The *Urtica pilulifera* was the one made use of.





*Urtica dioica*









*Urtica urens*



the bulb of a thermometer; in some of the prickles I observed the liquid stationary, on pressing such in particular I saw most plainly the liquor ascend to, and flow copiously from its very extremity, see *fig. 9.* I was the more anxious to see this, as I suspected the poison might proceed from an aperture in the side of the sting, near the point, as in the forceps of the spider, and tooth of the viper, and where it appears to be placed, rather than at the extremity, that it may not take off from its necessary sharpness.

Pricking the skin of my hand with a needle, I placed some of the juice on the wound, when it instantly inflamed, and put on all the appearance of a part stung by a Nettle.

It has been observed, that such as handle this plant roughly, rarely feel the effects of its sting; while others, from slightly touching it, experience it in all its force; this circumstance is happily expressed by AARON HILL:

“Tender-handed stroke a Nettle,  
“And it stings you for your pains;  
“Grasp it like a man of mettle,  
“And it soft as silk remains.”

Notwithstanding its roughness and stinging quality, many of the poorer people seek Nettle-tops in the spring with great avidity, as a pot-herb, neglecting the more luxuriant Chickweed, almost equal to spinach, growing perhaps abundantly just by it; others religiously put them in diet-drinks at the same period, expecting to have their whole mass of blood so purified as to be free from disease for twelve months at least.

Mr. LIGHTFOOT informs us in his *Fl. Scot.* that in Arran, and other islands of Scotland, a rennet is made of a strong decoction of Nettles; a quart of salt is put to three pints of the decoction, and boiled up for use; a common spoonful of this liquor will coagulate a large bowl of milk very readily, and agreeably, as he saw and experienced.

The stalk of the Nettle is found to have a texture somewhat like that of Hemp, and to be capable of being manufactured into cloth, ropes, and paper.

The old writers on the *Materia Medica*, are profuse in their encomiums on the virtues of the Nettle, as they are on those of most other plants; but, excepting the benefit which may arise from its external application, its virtues we apprehend are extremely problematical.

Urtication, or whipping with Stinging-Nettles, is an old practice, and recommended in various disorders, especially lethargy, palsy, or numbness of any particular limb, rheumatic pains, &c.

The Nettle is refused by cattle in general; hence we often see pastures, orchards, &c. disfigured by large patches of them, which, as the root is perennial and creeping, are every year increasing; the agriculturist who wishes to improve and embellish his fields, will lose no time in extirpating such. There are some, however, who think differently of this plant; HALLER says, that it affords excellent food for cattle, especially milch cows; that it has even been cultivated, and that advantageously, in Sweden for feeding kine. *Hall. Hist. p. 287.*

Though this plant is not remarkably advantageous either to man or beast, it affords nourishment to a great number of insects; it is the only food of the caterpillars of three of our most beautiful Butterflies, viz. the *Atalanta*, *Papilio*, and *Urtica*, the principal food of a fourth, the *Iö*, which I have this year found also on the Hop, and the occasional food of a fifth, the *C. album*, which feeds also on the hop and the elm; two of our moths also feed on it, viz. the *urticata* and the *verticalis*; besides these, which are the principal insects found on the Nettle with us, a great number of other indiscriminate feeders devour its foliage. The base of the leaves in autumn is extremely liable to be disfigured by tubercles, which, if opened, are found to contain small maggots, which probably produce the *Musca Urticae* of LINNÆUS; but of this we hope to speak with more certainty when we treat of the *Urtica pilulifera*.

## URTICA URENS. SMALL NETTLE.

URTICA *urens* foliis oppositis ovalibus. *Linn. Syst. Veg. p. 849. Spec. Pl. p. 1396. Fl. Suec. 863. Scopoli Fl. Carn. ed. 2. n. 1174.*

URTICA *sexbus* sede disjunctis, foliis ovato-lanceolatis, julis oblongis. *Hall. Hist. 1615.*

URTICA *minor*. *Ger. emac. 707. minor annua. J. Baub. III. 446. urens minor. Baub. Pin. 232. racemifera minor annua. Raii Syn. p. 140. The lesser Stinging-Nettle. Hudf. Fl. Angl. p. 417. Lightf. Fl. Scot. p. 578.*

<p>Differt a dioica, planta tertia parte humiliore; floribus monoicis; radice annua, alba; caulibus ramifloribus; foliis multo minoribus et rotundioribus; stipulis vix conspicuis; racemis multo brevioribus, minusque ramosis.</p>	<p>Differs from the dioica, in being scarcely one-third as tall; having male and female flowers on the same plant; the root annual, white; stalks much branched; leaves much smaller and rounder; stipulæ less conspicuous; racemi much shorter in proportion.</p>
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There appears to be no reason for applying the term *urens* to this species in particular, as several of the others are equally pungent.

Of annual weeds, this Nettle is one of the very worst, especially in light, manured soils, each plant producing an immense number of seeds, and that in a shorter time than most others: PARKINSON observes, that it will “beare ripe seed twise in one year;” the young plants are therefore to be cut up with the hoe as soon as they appear. The great advantage of early hoeing cannot be too strongly impressed on the minds of Farmers and Gardeners.

### Reference to the Parts of Fructification.

*Fig. 1.* the Calyx of the female flower. *Fig. 2.* the Calyx of the male flower. *Fig. 3.* the Stamina.  
*Fig. 4.* the Pistillum. *Fig. 5.* the Seed. *Fig. 6.* the same magnified.







# AIRA CARYOPHYLLEA. SILVER HAIR-GRASS.

AIRA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, 2-florus. Flosculi absque interjecto rudimento.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AIRA *caryophyllea*, foliis setaceis, panicula divaricata, floribus aristatis distantibus. Linn. Syst. Vegetab. p. 112. Sp. Pl. p. 97.

AVENA diantha, foliis setaceis, panicula divaricata. Haller Hist. n. 1482.

AIRA foliis setaceis, panicula trichotoma, floribus aristatis divergentibus. Hudson Fl. Angl. ed. 2. p. 36.

CARYOPHYLLUS arvensis glaber minimus. Baub. Pin. 210.

GRAMEN paniculatum purpuro-argenteum, locustis parvis annuum. Hist. Ox. III. 200. t. 5. f. 11.

GRAMEN paniculatum, locustis purpuro-argenteis annuum. Raii Syn. p. 407. Small annual fair-panicked Grass.

RADIX annua, fibrosa, fibris paucis, in terram vix descendentibus, unde plantula venti impetu facile eruitur.

CULMUS erectus, spithamæus, et ultra, teres, striatus, foliatus, bitrinodis.

FOLIA setacea, brevica, rigidula, convoluta, erecta, glauca, obtusiuscula: Vaginæ longæ, striatæ, scabriusculæ, marginibus membranaceis albidis; Membrana magna, acuminata, demum bifida.

PANICULA divaricata; Pedunculi solitarii, in culta planta plerumque gemini, longi, ramosi, trifidi, glabri; Pedicelli breves, parum flexuosi; Flores distantes.

CALYX: Gluma biflora, bivalvis, valvulis ovato-lanceolatis, acutis, æqualibus, albidis, nitidis, basi subpurpurascens, fig. 1.

COROLLA bivalvis, valvulæ sessiles, subæquales, calyce vix breviores, virentes, acutæ, exteriore aristata, fig. 2. Arista prope basin egrediens, recta, alba, calyce dimidio longior, fig. 3.

STAMINA: FILAMENTA 3, capillaria, longitudine fere floris; ANTHERÆ oblongæ, utrinque furcatæ, fig. 4.

PISTILLUM: GERMEN ovatum; STYLI 2, patentes, plumosi, fig. 5.

SEMEN subovatum, tectum, fig. 6. denudatum.

ROOT annual, fibrous, fibres few, penetrating but a little way into the earth, whence the plant by the violence of the wind, is easily forced out of the ground.

STALK upright, about a span high, round, striated, leafy, with two or three joints.

LEAVES setaceous, short, somewhat rigid, the edges rolled in, upright, glaucous, a little blunt: Sheaths long, striated, roughish, the edges membranous and white; the Membrane large, long-pointed, finally bifid.

PANICLE divaricated; Peduncles growing singly, in the cultivated plant usually two together, long, branched, trifid, and smooth; Pedicles short, somewhat crooked; Flowers distant.

CALYX: a Glume of two flowers, two-valved, the valves ovato-lanceolate, acute, equal, whitish, glossy, purplish at the base, fig. 1.

COROLLA two-valved, valves sessile, nearly equal, a little shorter than the calyx, greenish, pointed, the outer one awned, fig. 2. Awn proceeding from near its base, straight, white, longer by one half than the calyx, fig. 3.

STAMINA: 3 capillary FILAMENTS, nearly the length of the flower; ANTHERÆ oblong, forked at each end, fig. 4.

PISTILLUM: GERMEN ovate; STYLES 2, spreading, and feathery, fig. 5.

SEED somewhat ovate, covered with the corolla, fig. 6. denuded.

The *Aira caryophyllea* is found with us in situations nearly similar to those of the *Aira præcox*, already figured, viz. on sandy, barren heaths, and sometimes in fallow fields; it is not, however, to be met with in the same profusion, nor to be found with the same certainty.

It flowers in May and June, and as it is an annual, unless it be sought for about its flowering season, it will not easily be discovered.

Our figure represents the plant as it is usually found in its wild state; in richer soils it grows much larger, and in tufts of a considerable size.

We have no other *Aira* for which it can easily be mistaken, the *flexuosa* which frequently grows in the same situations is a perennial, and usually twice or thrice as high, its spiculæ also are larger, and more silvery, the *præcox* on the contrary is a smaller plant, and has a much closer panicle.

We never could discover the propriety of Mr. STILLINGFLEET's figuring this plant among his grasses; what has such a very insignificant annual to do with the improving of meadows and pastures?





*Ara*  
*caryophyllea*









*Trifolium arvense.*

5828.1



# TRIFOLIUM ARVENSE. HARE'S-FOOT TREFOIL.

TRIFOLIUM. *Linn. Gen. Pl.* DIADELPHIA DECANDRIA.

*Flores subcapitati.\* Legumen vix calyce longius, non dehiscens, deciduum.*

*Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.*

TRIFOLIUM *arvense* spicis villosis ovalibus, dentibus calycinis fetaceis villosis æqualibus. *Linn. Syst. Vegetab. ed. 14. Murr. p. 689. Sp. Pl. p. 1083. Fl. Suec. n. 668.*

TRIFOLIUM caule ramoso, foliis lanceolatis ferratis, spicis villosis ovatis. *Hall. Hist. n. 373.*

TRIFOLIUM *arvense*. *Scopoli Fl. Carn. p. 83. v. 2.*

TRIFOLIUM *arvense* humile spicatum f. *Lagopus*. *Baub. Pin. 328.*

LAGOPUS trifolius. *J. Baub. Hist. 2. p. 377.*

LAGOPUS five Pes Leporis. *Ger. emac. 1193.*

LAGOPUS vulgaris. *Park. 1107. Raii Syn. p. 330.*

Hare's-Foot or Hare's-Foot Trefoil. *Hudson Fl. Angl. ed. 2. p. 326. Lightfoot Fl. Scot. p. 406.*

RADIX annua, fusiformis, simplex, albida.

CAULIS pedalis, suberectus, ramosus, teres, læviusculus, pilis crebris, mollibus, albis, canescens.

RAMI alterni, breviusculi, patulo-erecti.

FOLIA ternata; foliola æqualia, oblongo-obovata, emarginata, leviter striata, pilosa.

STIPULÆ bicuspidatæ, apicibus subulatis, striatæ, striis interdum rubris.

FLORES parvi, albi, in capitulis terminalibus, subovalibus, pilosissimis, cano-carneis.

CALYX: PERIANTHIUM tubulatum, 5-dentatum, pilosissimum, albidum, dentibus subæqualibus, longitudine tubi, fetaceis, rubris, *fig. 1.* pili cani sub microscopio recti, longissimi.

COROLLA papilionacea, calyce brevior, alba; VEXILLUM obovatum, obsolete crenulatum; ALÆ angustæ, dimidio breviores; CARINA obtusalis brevior, *fig. 2.*

STAMINA diadelphea, simplex et novemfidum, ANTHERÆ simplices.

PISTILLUM: GERMEN subovatum; STYLUS subulatus, ascendens; STIGMA simplex.

SEMEN subovatum, glabrum, virefcens, calyce tectum, *fig. 3.* excerptum, *fig. 4.*

ROOT annual, tapering, simple, whitish.

STALK about a foot high, nearly erect, branched, round, smoothish, grey, with numerous soft white hairs.

BRANCHES alternate, shortish, betwixt upright and spreading.

LEAVES growing three together, equal, oblong-obovate, emarginate, faintly striated, hairy.

STIPULÆ two-pointed, tips awl-shaped, striated, veins sometimes red.

FLOWERS small, white, in terminal heads somewhat oval, very hairy; of a greyish flesh colour.

CALYX: a tubular PERIANTHIUM of five teeth, very hairy, whitish, teeth nearly equal, as long as the tube, bristle-shaped, and red, *fig. 1.* the hairs grey, magnified appear straight, and very long.

COROLLA papilionaceous, shorter than the calyx; STANDARD obovate, faintly notched; WINGS narrow, shorter by one half, KEEL obtuse, shorter than the wings, *fig. 2.*

STAMINA in two bodies, one single, nine united; ANTHERÆ simple.

PISTILLUM: GERMEN subovate; STYLE tapering, ascending; STIGMA simple.

SEED somewhat ovate, smooth, greenish, covered by the calyx, *fig. 3.* taken out, *fig. 4.*

The *Trifolium arvense*, though not to be found in every walk that one takes about London, is common enough in sandy, and gravelly soils, and in light arable lands, which it chiefly affects; we have observed it most frequently about Charlton; in the sand pits behind the Church it may be found with certainty.

There is scarcely any tribe of plants which vary more in their inflorescence than the Trefoils (see the several species figured in this work) the *arvense* differs remarkably from all our others, the flowers growing in soft, oblong, hairy heads, of a light colour, which have a most pleasing appearance, and render the plant very conspicuous, it is from these, as is well known, it has very generally acquired the name of Hare's-Foot.

From what we have observed, the seeds in many of the species of this genus are not scattered abroad as in most of the leguminous plants, but vegetate in the heads as they lie on the ground; we have noticed this economy in the present as well as other species; how far the whole genus is subject to it deserves inquiry.

LINNÆUS in his *Flor. Suec.* considers the *Lagopus perpusillus supinus perelegans maritimus Lobelii* of Ray's *Synopsis*, p. 330. t. 14. f. 2. as a variety merely, having found it to have an annual root, and to become like the other on being cultivated.







# GERANIUM DISSECTUM. JAGGED CRANE'S-BILL.

GERANIUM. Linn. Gen. Pl. MONADELPHIA DECANDRIA.

Monogyna. Stigmata 5. Fructus rostratus, pentacoccus.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *dissectum* pedunculis folio brevioribus, foliis quinquepartito-trifidis multifidisque, petalis, emarginatis, arillis villosis. L'Herit. Ger. Ait. Hort. Kew. vol. 2. p. 437.

GERANIUM *dissectum* pedunculis bifloris, foliis quinquepartito-trifidis, petalis emarginatis, longitudine calycis, arillis villosis. Linn. Syst. Veg. p. 618. Spec. plant. p. 956. Flor. Suec. 622. Scopoli Fl. Carn. ed. 2. n. 848. Hudson Fl. Angl. p. 304. Lightfoot Fl. Scot. 371.

GERANIUM caule erecto, foliis quinquelobis, lobis trifidis acutis. Hall. Hist. 937.

GERANIUM foliis imis usque ad pedunculum divisis. Vaill. Paris. tab. 15. f. 2.

GERANIUM malacoides f. columbinum alterum. Parkinson 706. Columbinum majus dissectis foliis. Ger. em. 938. Raii Syn. 359. Dove's-foot Crane's-bill, with jagged leaves.

RADIX annua, teres, subfibrosa, fusca.

CAULES plures, subpedales, patentes, teretiusculi, pallide virides, hinc rubentes, pilis crebris, brevibus, albis, deorsum spectantibus, obfiti, nodosi, ramosi, ramis alternis, divaricatis, patulis.

FOLIA opposita, longe petiolata, quinquepartita, laciniis tri-sexfidis, distantibus, linearibus, inæqualibus, acutiusculis, venosis, utrinque pilis sursum spectantibus instructis, margine apiceque rubris, sinibus obtusis. Laciniæ foliorum radicalium magis approximatae et obtusiores, petiolis divaricatis, patulis, compressiusculis, uti caulis pilosis.

STIPULÆ bilobæ, basi lata, albida, lobis femicordatis, acuminatis, rubris, nitentibus, linea dorsali albida, margineque ciliatis.

FLORES parvi, purpureo-rubri.

PEDUNCULI biflori, foliis breviores.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovato-oblongis, trinerviis, aristatis, pilis glandulosis obfitis, fig. 1.

COROLLÆ calyce paulo brevior. PETALA quinque, oblongo-obcordata, emarginata, fig. 2.

NECTARIUM: GLANDULÆ quinque virides, cum petalis alternantes, fig. 3.

STAMINA: FILAMENTA decem, germen cingentia. ANTHERÆ subovatae, cœruleæ, fig. 4.

PISTILLUM: GERMEN pentagonum, rostratum, pilis glandulosis vestitum. STYLUS cylindricus, persistens. STIGMA quinquefidum, rufescens, fig. 5.

SEMINA arillata. ARILLUS villosus, fig. 6.

ROOT annual, round, somewhat fibrous, brown.

STALKS many, about a foot long, spreading, roundish, of a pale green, here and there reddish, beset with a number of white, short hairs, pointing downwards; jointed, branched; the branches alternate, divaricated, spreading.

LEAVES opposite, on long footstalks, deeply divided into five segments, which are again divided into from three to six smaller ones, distant, linear, unequal, somewhat pointed, veiny, on both sides beset with hairs pointing upwards, their edge and tips red, the sinusses obtuse. The segments of the radical leaves approach nearer to each other, and are more obtuse, footstalks spreading, a little flattened, hairy like the stalk.

STIPULÆ composed of two lobes, with a broad white base, the lobes femicordate, acuminate, red, shining, having a whitish line on the back, which together with the margin is edged with hairs.

FLOWERS small, of a purplish red colour.

PEDUNCLES two-flower'd, shorter than the leaves.

CALYX: a PERIANTHIUM with five, ovato-oblong, three-rib'd, awned leaves, beset with glandulous hairs, fig. 1.

COROLLÆ a little shorter than the calyx. PETALS five, oblongo-obcordate, emarginated, fig. 2.

NECTARY: five green glandules, placed alternately with the petals, fig. 3.

STAMINA: ten FILAMENTS surrounding the germen. ANTHERÆ nearly ovate, blue, fig. 4.

PISTILLUM five-corner'd, beaked, beset with glandulous hairs. STYLE cylindrical permanent. STIGMA quinquefid, reddish, fig. 5.

SEEDS covered with a villous ARILLUS, fig. 6.

We have figured this species in the state we usually find it among the herbage, on the borders of meadows and pastures; a situation which with us it very much affects; of course it is more drawn up than when it grows singly, which it frequently does by road sides, and in fallow fields.

It flowers in May and June.

It varies greatly in size, and we have seen it with white and flesh coloured blossoms.

It can scarcely be mistaken for any of the other British species; we may remark, however, that it is not only distinguished by its finely divided leaves, but that its blossoms (usually of a bright colour) being furnished with very short footstalks, appear sitting as it were among the leaves; the petals also are usually shorter than the calyx by the awns of the latter, which are unusually long; the calyx, but more particularly the style, which becomes the rostrum, is thickly covered with viscid hairs; the hairs on the stalk afford likewise a good distinction, as they do not spread horizontally as in many of the other species, but obviously point downward, which is accurately noticed in Mons. VAILLANT's figure.





*Geranium dissectum*

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# MELISSA NEPETA. FIELD CALAMINT.

MELISSA. *Linn. Gen. Pl.* DIDYNAMIA GYMnosPERMIA.

*Calyx* aridus, supra planiusculus: labio superiore subfastigiato. *Corollæ* labium superius subfornicatum, bifidum, lab. inf. lobo medio cordato.

*Raii Syn. Gen.* 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

MELISSA *Nepeta* pedunculis axillaribus dichotomis folio longioribus, caule adscendente hirsuto. *Linn. Syst. Veg.* p. 542. *Spec. Pl.* p. 828.

MELISSA foliis hirsutis ovatis acuminatis, leniter ferratis, petiolis ramosis, folia superantibus. *Hall. Hist.* n. 240.

CALAMINTHA *Pulegii* odore *f. Nepeta*. *Bauh. Pin.* 228.

CALAMINTHA odore *Pulegii*. *Gerard. emac.* 687.

CALAMINTHA altera odore *Pulegii*, foliis maculosis. *Parkin.* 36. *Raii Syn.* p. 243. Field Calamint. *Hudson Fl. Angl.* p. 264.

RADIX perennis, subobliqua, teres, flexuosa, lignosa, fusca.	ROOT perennial, somewhat oblique, crooked, round, woody, brown.
CAULIS lignosus, mox supra basin divisus in ramos elongatos, pedales ad bipedales, ascendentes, obsolete tetragonos, inferne rufescentes, pilis mollibus, horizontalibus obfitos.	STALK woody, divided just above the base into branches, which are from one to two feet in length, ascending, faintly quadrangular, reddish towards the base, beset with soft, horizontal hairs.
FOLIA opposita, remotiuscula, breve petiolata, vix pollicaria, patentissima, subcarinata, apice reflexa, late ovata, fere cordata, obtusiuscula, ferrata, margine revoluta, subundulata, venoso-rugosa, mollia, utrinque villosa, pallide viridia.	LEAVES opposite, rather remote, fitting on short footstalks, scarcely an inch long, spreading, slightly keel'd, reflexed at the point, of a broad ovate, almost heart-shaped figure, bluntish, ferrated, the margin rolled back, and slightly waved, wrinkled, soft, villous on both sides, of a pale green colour.
FLORES verticillati, pallide cœrulei, ante explicationem flavescentes, odoris uti tota planta aromati.	FLOWERS placed in whorls, pale blue, before they expand yellowish, possessing like the whole plant a pleasant aromatic smell.
VERTICILLI dimidiati, foliis altiores, pauciflori.	WHORLS growing in halves, longer than the leaves, few-flowered.
BRACTEÆ paucæ, parvæ, subulatæ.	BRACTEÆ few, small, awl-shaped.
PEDUNCULI communes duo, axillares, dichotomoramosi, 4-6 flori. <i>Pedicelli</i> inæquales, erecti.	COMMON PEDUNCLES two out of the axæ of the leaves, branched, bearing four or six flowers. <i>Partial Peduncles</i> unequal, upright.
CALYX: PERIANTHIUM monophyllum, tubulatum, persistens, quindecimstriatum, pilosiusculum, quinquedentatum, dentibus acuminatis, utrinque hirsutis, inferioribus duobus longioribus, angustioribus. Striæ dentisque fusco-purpurascens, <i>fig. 1.</i>	CALYX: a monophyllous PERIANTHIUM, tubular, permanent, slightly hairy, with fifteen striæ, and five teeth, which are acuminate, on both edges hairy, the two inferior ones longer and narrower. The striæ and teeth of a brown purplish colour, <i>fig. 1.</i>
COROLLA monopetala, ringens, calyce longior, pilosiuscula. TUBUS cylindraceus, albidus. FAUX dehiscens, barbata. LABIUM superius brevius, erectiusculum, profunde emarginatum, subcordatum, dorso plicatum: inferius trifidum, undulatum, lacinia media majori, <i>fig. 2.</i>	COROLLA monopetalous, gaping, longer than the calyx, slightly hairy. The TUBE cylindrical, whitish. Mouth of the tube bearded. The UPPER LIP shorter, almost upright, deeply emarginated, nearly obcordate, at the back folded. The UNDER LIP trifid, waved, the middle segment larger than the others.
STAMINA: FILAMENTA quatuor, teretia, albida, corolla breviora, duo breviora. ANTHERÆ biloculares, violaceæ. POLLEN album, <i>fig. 3.</i>	STAMINA: four round whitish FILAMENTS shorter than the corolla, two of them shorter than the rest. ANTHERÆ bilocular, violet-coloured. POLLEN white, <i>fig. 3.</i>
PISTILLUM: GERMEN quadrifidum, basi glandula nectarifera fulvente cinctum. STYLUS filiformis, purpurascens, corollæ longitudine, cum staminibus sub labio superiore corollæ inclinatus. STIGMA tenue, bifidum, reflexum, <i>fig. 4.</i>	PISTILLUM: GERMEN quadrifid, at the base surrounded with a nectariferous, orange-coloured GLANDULE. STYLE thread-shaped, purplish, the length of the corolla, turned in along with the stamens, under the upper lip of the corolla. STIGMA slender, bifid, reflexed, <i>fig. 4.</i>
PERICARPIUM nullum. Calyx immutatus in sinu femina fovens.	PERICARPIUM none. The calyx unaltered contains the seeds.
SEMINA quatuor, ovata.	SEEDS: four, ovate.

This species of *Melissa* affects dry, chalky soils, and is frequent in many parts of Kent by road sides, and in uncultivated places; we find it in tolerable abundance in the old sand-pits at the back of Charlton church, where it flowers in July, August, and September.

Students are apt to mistake it for the *Melissa Calamintba*, from which it differs essentially in many respects, which we shall particularize when that plant comes to be figured.

It is worthy of notice on account of its fragrance; it is moreover a medicinal plant.

The whole herb has a strong aromatic smell, approaching to that of Pennyroyal, and a moderately pungent taste, somewhat like that of Spearmint, but warmer; in virtue it appears to be nearly similar to a mixture of these herbs; infusions of the leaves are drank as tea in weaknesses of the stomach, flatulent cholics, and uterine obstructions. *Lewis's Mat. Med. ed. Aik.* p. 172.



# ANEMONE APENNINA. MOUNTAIN ANEMONE.

ANEMONE. *Linn. Gen. Pl.* POLYANDRIA POLYGYNIA.

*Cal. 6. Petala 6-9. Sem. plura.*

*Raii Syn. Gen. 15. HERBÆ SEMINE NUDDO POLYSPERMÆ.*

ANEMONE *apennina* feminibus acutis, foliolis incisis, petalis lanceolatis numerosis. *Linn. Syst. Veg. ed. 14. Murr. p. 511. Spec. Pl. ed. 3. p. 762. Hudson Fl. Angl. ed. 2. p. 237.*

ANEMONE *geranii robertiani* folio cærulea. *Baub. Pin. 174.*

RANUNCULUS *nemorofus*, flore cæruleo, apennini montis. *Mentz. pug. t. 8. f. 2.*

ANEMONE *hortensis tenuifolia*, simplici flore 1. *Clus. Hist. 1. p. 254.*

ANEMONE *Geranifolia*. Storke's-bill Winde-flower. *Ger. Herb. p. 304. fig. 7.*

RANUNCULUS *nemorofus* flore purpureo cæruleo. The single purple wood Crowfoote. *Park. Tb. p. 325. Raii Syn. ed. 3. p. 259.*

RADIX perennis, tuberosa, crassitie minimi digiti, difformis, fusca.

CAULIS teres, glaber, purpurascens, uniflorus, spithameus.

FOLIA radicalia ternata, petiolata, foliolis tripartitis, laciniis incisis, acutiusculis, utrinque pilosis; folium caulinum pedunculo subjectum (five involucrum) sessile, ter aut quaternatum, foliolis uti in folio radicali.

FLOS erectus, pallide cæruleus, odore suavi.

PEDUNCULUS subpalmaris, teres, pilosus, subpurpurascens, juxta florem viridis.

CALYX nullus.

COROLLA: PETALA 12 ad 15, in tres ordines disposita, oblonga, fig. 1.

STAMINA: FILAMENTA numerosa, inæqualia, capillaria, alba; ANTHERÆ erectæ, didymæ, flaventes, fig. 2.

PISTILLUM; GERMINA numerosa, in capitulum collecta; STYLI breves; STIGMATA obtusa, fig. 3.

SEMINA plurima, subovata, compressa, villosula, apice purpurea, stylum incurvum retinentia, haud infrequenter abortiva, fig. 4, 5.

ROOT perennial, tuberous, the thickness of the little finger, irregular in its shape, and of a brown colour.

STALK round, smooth, purplish, about a span high, supporting a single flower.

LEAVES from the root growing three together, standing on foot-stalks, small leaves tripartite, segments incised, somewhat pointed, hairy on both sides; the stalk-leaf placed under the peduncle (or involucrum) sessile, composed of three or four leaves, small leaves as in those from the root.

FLOWER upright, of a pale blue colour, and sweet smell.

FLOWER-STALK about a hand's breadth in length, round, hairy, purplish, close to the flower green.

CALYX wanting.

COROLLA: PETALS from 12 to 15, disposed in three rows, of an oblong shape, fig. 1.

STAMINA: FILAMENTS numerous, unequal, capillary, white; ANTHERÆ upright, double and yellowish, fig. 2.

PISTILLUM: GERMINA numerous, growing in a little head; STYLES short; STIGMATA blunt, fig. 3.

SEEDS numerous, somewhat ovate, flattened, slightly villous, purple at top, retaining the style, which is bent downward, fig. 4, 5. frequently proving abortive.

The *Anemone apennina* found undoubtedly wild on the Apennine mountains, grows plentifully in Lord SPENCER'S Park at Wimbledon, but in such situations as leaves room to doubt its being an original native of that spot; we should therefore have scarcely considered ourselves justified in figuring it, as an English plant, had it not been mentioned by several authors as growing wild in different parts of the kingdom, as near *Harrow on the Hill*, Mr. DUBOIS; in a wood near *Luton-Hoe* in Bedfordshire, Mr. TH. KNOWLTON; *Ray's Syn.* and near *Berkhamstead*, Herts, Mr. GOODALL; *With. Arr. ed. 2.*

This species flowers the beginning of April at the same time as the Wood Anemone, with which it has some affinity in its foliage, but differs widely in its root and flowers, the former is much thicker, and more knobby, the Petals of the latter much narrower, more than twice as numerous, and of a colour wholly different, being of a light pleasant purplish blue: when they first expand, the outer part of the Petals has a rich purplish tint, which is lost when the flowers have been some time exposed to the sun.

It is a very ornamental plant, suitable to decorate the flower garden, shrubbery, or wilderness, it delights in a pure air, and a light loamy soil; we never could make it succeed in our Garden at Lambeth-Marsh, but at Brompton it thrives greatly.





*Anemone apennina*









*Primula acaulis.*



# PRIMULA ACAULIS. PRIMROSE.

PRIMULA. Linn. Gen. Pl. PENTANDRIA MONOGYNIA.

Involucr. Umbellulæ. Corollæ tubus cylindricus: ore patulo.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALÆ.

PRIMULA acaulis foliis rugosis, dentatis, subtus hirsutis; scapis unifloris. Jacq. Misc. Austr. p. 158.

PRIMULA vulgaris foliis dentatis rugosis scapo subunifloro, limbo corollæ plano. Hudf. Fl. Angl. ed. 2. p. 83.

PRIMULA foliis dentatis rugosis pedunculis radicalibus unifloris, limbo corollarum plano. Kram. Elench. p. 42.

PRIMULA veris var γ acaulis, scapo nullo. Linn. Sp. Pl. p. 204. Syst. Vegetab. ed. 14. Murr. p. 192. Fl. Suec. 171.

PRIMULA sylvestris. Scopoli Fl. Carn. n. 204.

PRIMULA foliis hirsutis, rugosis, dentatis; scapis unifloris. Haller Hist. n. 608.

VERBASCULUM fylvarum majus singulari flore. Baub. Pin. 241.

PRIMULA veris pallido flore humilis. Clus. Hist. p. 302.

PRIMULA veris minor. Ger. Herb. 636.

PRIMULA veris vulgaris. Park. Th. p. 535. Raii Syn. p. 284. Common Primrose.

RADIX perennis, obliqua, præmorsa, squamis crassis rubentibus a foliis præteritis relictis obtecta; emittens fibras copiosas, prælongas, teretes, albidas. Odor singularis fere anisi.

CAULIS nullus.

FOLIA subpalmaria, erectiuscula, oblongo-ovata, basi attenuata, obtusa, venosa, rugosa, supra lævia, subtus hirsuta, margine parum revoluta, leviter undulata, inæqualiter crenata; costa albida, in petiolum canaliculatum carinatum rubentem desinente.

STIPULÆ subunciales, acuminatæ, ad basin peduncolorum.

FLORES erecti, numerosi, pallide sulphurei, majusculi, suaveolentes.

PEDUNCULI erecti, foliis paulo breviores, uniflori, teretes, hirsuti, pallide virentes, ex ipsa radice progredientes, post florescentiam deflecti.

CALYX: PERIANTHIUM 1-phyllum, persistens, oblongum, tubulosum, plicato-pentagonum, pilosum, 5-dentatum, dentibus acuminatis, apice inflexis, fig. 1.

COROLLA monopetala, tubulosa; tubus cylindraceus, calyce longior, striatus, nitidus, limbus quinquepartitus, patens, laciniis obcordatis, emarginatis, basi macula stellæformi flava notatis; faux obsolete coronata, fig. 2.

STAMINA: FILAMENTA 5, brevissima, intra tubum corollæ, fig. 4. aut ad faucem ejus posita, fig. 3. ANTHERÆ erectæ, oblongæ, flavæ, subtrigonæ, fig. 5. conniventes.

PISTILLUM: GERMEN superum, subglobosum, glabrum, fig. 6. STYLUS filiformis, tubo plerumque brevior, fig. 7. STIGMA globosum, fig. 8.

ROOT perennial, oblique, flumped at the extremity, beset with thick reddish scales, the remains of the past leaves, sending down numerous, very long, round, whitish fibres; its smell singular, somewhat like that of anise.

STALK none.

LEAVES about a hand's breath in length, nearly upright, oblong-ovate, tapering to the base, blunt, veiny, wrinkled, smooth above, hirsute beneath, the edge slightly rolled back, slightly waved, unequally notched, the midrib whitish, terminating in a footstalk of a reddish colour, hollow on one side, and keeled on the other.

STIPULÆ about an inch in length, long-pointed, at the base of the flower-stalks.

FLOWERS upright, numerous, of a pale sulphur colour, rather large and sweet-scented.

FLOWER-STALKS upright, a little shorter than the leaves, one-flowered, round, hirsute, of a pale green colour, proceeding from the root itself, after the flowering is over, bending back.

CALYX: a PERIANTHIUM of one leaf, permanent, oblong, tubular, folded, and forming five angles, hairy, 5-toothed, teeth long-pointed, bending in at the tip, fig. 1.

COROLLA monopetalous, tubular; the tube cylindrical, longer than the calyx, striated, and glossy; limb quinquepartite, spreading, the segments obcordate, emarginate, marked at the base with a star-shaped yellow spot, the mouth marked with a faint rim, fig. 2.

STAMINA: five FILAMENTS, very short, placed either within the tube of the corolla, fig. 4. or at its mouth, fig. 3. ANTHERÆ upright, oblong, yellow, somewhat three-corner'd, fig. 5. closing together.

PISTILLUM: GERMEN above the base of the calyx, nearly globular, smooth, fig. 6. STYLE filiform, usually shorter than the tube, fig. 7. STIGMA round, fig. 8.

*Primula veris* appears to have been a kind of general, or generic name given by many of the ancient Botanists to the *Primrose*, *Cowslip*, and *Oxlip*; yet is most applicable to the *Primrose*, as a flower of the spring; they regarded these plants as so many distinct species, and such they were in general considered till LINNÆUS ventured to maintain a contrary opinion, an opinion which comparatively speaking, few of his followers have acquiesced in: partial as we are to the transcendent merits of that great man, we cannot agree with him in this instance, without destroying, as we apprehend, all limits of specific distinction.

The most striking character of the *Primrose* consists in its mode of flowering, each blossom growing on a single peduncle, which springs from the root; LINNÆUS asserts that the peduncles spring from a scapus, as in the *Cowslip*, though it be so short as not to appear above ground, and from this circumstance principally, he maintains that the *Primrose* is only a variety; or, in other words, that the *Primrose*, the *Cowslip*, and the *Oxlip* are one and the same species.

We will not deny the existence of such a stalk as LINNÆUS describes; in examining a vast number of these plants, we have found it in a few, but it certainly is not general in the wild plant; we are ready, however, to admit more than the existence of this short scapus; the plant when cultivated will sometimes throw up a stalk similar to that of the *Polyanthus*, and of this my very good friend Dr. Buxton, of Greenwich, has favoured me with a striking instance; *Primroses* in their wild state introduced to his Garden at Maize-Hill, a few years since, now produce flowers, both with and without a scapus, are indeed become, colour excepted, perfect *Polyanthuses*; in my own garden the white hose in hose *Primrose* produces early in the spring, flowers on peduncles, and afterwards flowers on a scapus, or, to speak in the language of the florist, flowers in a truss, but still they have the foliage and the flowers of the true *Primrose*; the *Cowslip* and the *Oxlip*, on the contrary, sometimes produce flowers on peduncles, as well as on a scapus, of which I now have also instances in my garden; but



but what do all these prove? why that the *Primula*, like most other plants, is subject to the sportings of nature, and which are no more to be regarded than the uncommon colours of a flower; the root or the stalk of a plant may be equally subject to vary as the blossom, and those who cultivate plants see frequent instances of it: I once had a daisy which became caulescent, that is, its peduncle became a stalk which threw out many peduncles bearing flowers, the terminal one of which was proliferous, but no one from such an uncommon instance would infer that the *acaulis* character of the daisy was invalidated; it is just so in my humble opinion with regard to the Primrose, in general the peduncles spring singly from the root, and in forming its specific character we must be guided by their usual and genuine appearance.

Besides the striking character drawn from the inflorescence, a very material difference is observable in other parts of the plant, betwixt it and the Cowslip at least; to say nothing of the leaves, which have been noticed by RAY in a contrasted point of view, *vid. Syn. ed. 3. p. 283.* how different is the corolla in size and shape, and how very different is the calyx?

In their natural place of growth, and time of flowering, we observe a very material difference betwixt these two plants; the Primrose loves shelter, and the light umbrage of deciduous trees, through the leafless sprays of which it may enjoy the vernal sun, and when its flowering is over, be shaded from its too potent rays by the expanding foliage; hence we find it most commonly in woods, copses, hedge-rows, at the foot of hedges, and in sheltered lanes, where it is one of the first of our plants which awakens to the genial warmth of the sun, and welcomes the returning year; if the season be mild it will flower from March to May, its highest state of bloom is with that of the *Wood Anemone*; it is also much disposed to flower in the autumn, and even during winter if the weather be not severe: the Cowslip very rarely manifests a disposition of this sort, contented once to shew its freckled bloom; instead of woods and their attendant shade, this must be sought for in open pastures, and meadows, where it courts that degree of sun which would prove fatal to the Primrose, it flowers in May with the *early spotted Orchis*. (*Orchis mascula*).

The usual colour of the Primrose blossom is pale sulphur, in some parts of the kingdom they are said to be found wild of a purple hue; to enumerate all the varieties which have sprung from accident, or culture, would afford little entertainment or instruction; suffice it to say that many of them are very ornamental, and highly deserving of our care; the following are the most striking varieties which I have yet had it in my power to cultivate, the *SINGLE white flowered*, the *paper white*, which Mr. MILLER says, without assigning any reason, is certainly a distinct species, the *red or purple* of various shades, the *hose in hose*; the *DOUBLE yellow*, the *deep velvet red*, the *pale red*, or *flesh-coloured*; the *white* and the *dingy purple*, called by some the *Scotch Primrose*; all these are charming ornaments for the shrubbery, the six last are plants of some value, and duplicates of them should be kept in pots, which during summer must be placed in some shady situation; in the spring the shelter of a green-house will bring them forward, and make them flower to advantage, and as they blossom very early, they will tend to enliven a collection of more rare and valuable plants.

That curious variety called by GERARD and PARKINSON *Master HESKETH'S Primrose*, we have not met with in the collections about London; we hope it may yet remain in some part of the kingdom, as it appears deserving of culture from its great singularity; it is said by PARKINSON to bear not only single flowers upon severall stalks, but sometimes two or three single flowers upon one stalk, and also at the same time a bigger stalk, and somewhat higher, having one green huske at the toppe thereof, sometimes broken on the one side, and sometimes whole, in the middle whereof standeth sometimes divers single flowers thrust together, *vide* its fig. in his *Parad. terr.* The following is GERARD'S account of it, "There is a strange Primrose founde growing wilde, in Clapdale-Wood, near Settle, in Yorkshire, by the travel, and industry of a learned gentleman of Lancashire, called master THOMAS HESKETH, and a diligent searcher of Simples, who hath not only brought to light this amiable and pleasant kind of Primrose, but many others likewise, never before his time remembred, or founde out. This kinde of Primrose hath leaves, and rootes like the wilde fielde Primrose, in eche respect, it bringeth forth among the leaves a naked stalke of a greyish or overworne greenish colour, at the top whereof doth growe in the winter time one flower, and no more, like unto that single one of the fielde; but in the summer time it bringeth foorth a soft russet huske or hose, wherein are contained many smal flowers, sometimes fower or five and oftentimes more, very thicke thrust together, which maketh one entire flower, seeming to be one of the common double Primroses, whereas indeed it is one double flower made of a number of smal single flowers, never ceasing to beare flowers winter nor summer as before is specified."

While we are thus describing the varieties to which this plant is subject, it may not be amiss to observe that the stamina also vary greatly in their situation, being sometimes found low down in the tube of the blossom, sometimes at its mouth, in the former instance the Pistillum which varies also in length shews its round stigma, and with its attendant style looks like a pin stuck in the centre of the flower; such flowers in the Polyanthus are termed pin-eyed, while those in which the antheræ close the mouth of the tube, are called thrum-eyed, and this latter appearance in the opinion of the florist is an essential requisite in a good flower.

The contemplative mind feels a complacency in surveying the improvements which Providence permits to take place, in that part of the animal and vegetable world which mankind have brought under their care and protection, many instances of these might be adduced from the more useful and necessary productions, but it is not those only that amend under our care, we are permitted also to gratify our sight with the endless varieties that flowers put on, when cultivated by the curious; nor in any one instance does

"The exulting Florist mark  
"with secret pride the wonders of his hand"

more than in the boundless luxuriance that Polyanthus assumes, their parent the Primrose being a native, they face the severity of the winds of March much more boldly than any foreign plants, natives of warmer climates.

LINNÆUS indeed cautions Botanists against being seduced by the gaudy tints, that fascinate the mere florist, but surely we may safely admire, without fixing our attention wholly on the flower-bed.

The Primrose comes in for a share also of medicinal fame.

The leaves and the root of Primrose seem to partake in some degree of the nature of those of Asarum, acting as strong errhines, or sternutatories, when snuffed up the nose, and as emetics (the roots at least) when taken inwardly; GERARD reports as from the experience of a skilful practitioner, that a drachm and a half of the powder of the dried roots taken up in autumn purgeth by vomit very forcibly, but safely, in such manner as Asarum doth. *Lewis M. M.*

The root affords a good example of the *radix dentata*, the tubercles forming the teeth, arise as in most roots of the kind from the remains of the base of the leaf, and hence from their number some idea may be formed of the age of the plant.





# IBERIS NUDICAULIS. NAKED-STALKED CANDY-TUFT, or ROCK-CRESS.

IBERIS *Linn. Gen. Pl.* TETRADYNAMIA SILICULOSA.

*Cor. irregularis, petalis 2 exterioribus majoribus. Silicula polysperma, emarginata.*

*Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

IBERIS *nudicaulis herbacea, foliis sinuatis, caule nudo simplici. Linn. Syst. Vegetab. p. 589. Sp. Pl. p. 907. Fl. Suec. n. 581. Lightfoot Scot. p. 346. Hudson Fl. Angl. ed. 2. p. 285.*

IBERIS *foliis pinnatis, pinnis ovatis acutis. Hall. Hist. n. 521.*

NASTURTIIUM *minimum vernum foliis tantum circa radicem. Magnol. Bot. Monsp. p. 187. cum fig.*

BURSA PASTORIS *minor foliis incisis et Thal. Baub. p. 108.*

NASTURTIIUM *petræum foliis Burfæ Pastoris. Baub. p. 104.*

BURSA PASTORIS *minor. Ger. emac. 251. Parkinsf. 806. Raii Syn. p. 303. The lesser Shepherd's Purse, or Rock-Cress.*

RADIX *annua, fibrosa, albida.*

CAULES *vix palmares; juniores decumbentes, adultiores adscendentes, demum erecti; plerumque aphylli, interdum tamen foliis aliquot vestiti, simplices, teretes, glabri.*

FOLIA *radicalia petiolata, plerumque prostrata, in orbem posita, paulo ultra uncialia, lævia, sinuato-pinnatifida, obtusa; lobis in quibusdam oppositis, in aliis alternis, terminali maximo, rotundato, caulina ubi adfunt sessilia, inferiora quinquefida aut trifida, superiora simplicia, lanceolata.*

FLORES *racemosi, parvi, albi, inodori.*

PEDUNCULI *femunciales, patentissimi.*

CALYX: PERIANTHIUM *tetraphyllum; foliolis lato-lanceolatis, concavis, æqualibus, rufescentibus, deciduis, fig. 1.*

COROLLA *tetrapetala, inæqualis, calyce major; PETALA obovata, duo exteriora majora, patentia, duo interiora minora, inflexa, fig. 2.*

STAMINA: FILAMENTA *sex, subulata, erecta, alba, quorum duo lateralia breviora; ANTHERÆ subrotundæ, flavæ, fig. 3.*

PISTILLUM: GERMEN *subrotundum, compressum; STYLUS simplex, brevis; STIGMA obtusum.*

PERICARPIUM: SILICULA *erecta, suborbiculata, emarginata, compressa, parum concava, margine acuto cincta, bilocularis, fig. 5. dissepimento lanceolato; valvulis navicularibus, compressis, carinatis, fig. 6.*

SEMINA *in singulo loculo plerumque duo, subovata, fig. 7.*

ROOT *annual, fibrous, whitish.*

STALKS *scarcely a hand's breadth in height, the young ones decumbent, rising as they grow older, finally upright, generally naked, but sometimes furnished with one or more leaves, simple, round, and smooth.*

LEAVES *next the root, standing on footstalks, generally spread circularly on the ground, somewhat more than an inch in length, smooth, sinuated and pinnatifid, obtuse, the lobes in some opposite, in others alternate, the terminal one very large and rounded, those of the stalk (if any) sessile, the lowermost ones divided into five or three segments, the upper ones simple and lanceolate.*

FLOWERS *growing in racemi, small, white, and without scent.*

FLOWER-STALKS *half an inch long, spreading wide.*

CALYX: a PERIANTHIUM *of four leaves, broad lanceolate, concave, equal, reddish, and deciduous, fig. 1.*

COROLLA *composed of four petals, unequal, larger than the calyx; PETALS obovate, the two outer ones largest, spreading, the two inner ones least, bent in, fig. 2.*

STAMINA: six FILAMENTS, *tapering, upright, white, the two side ones shortest; ANTHERÆ roundish, yellow, fig. 3.*

PISTILLUM: GERMEN *roundish, flattened; STYLE simple, short; STIGMA obtuse.*

SEED-VESSEL: an upright POD, *somewhat orbicular, emarginate, flattened, a little concave, surrounded with a sharp margin, composed of two cavities, fig. 5. the partition lanceolate, the valves boat-shaped, flattened, keeled, fig. 6.*

SEEDS: *generally two in each cavity, subovate, fig. 7.*

This diminutive plant occurs sparingly in the neighbourhood of London, and principally to the westward of it; we have found it on Hounslow-Heath, Putney, and Barnes-Common, more frequently indeed on the last, and generally on the edges of gravel-pits, where the soil has been dry and barren, and where usually grew *Gnaphalium montanum*, *Aira flexuosa*, and *Ornithopus perpusillus*.

Its flowers, which come forth in May and June, are very minute, but when magnified sufficiently distinguish the leading trait in its generic character; they are succeeded in July by seed-vessels rather large in proportion to the plant.

The stalk is not always destitute of leaves; the more luxuriant the plant, the more it is disposed to produce them: MAGNOL observes, that they are sometimes found entire on the edges.





*Hera  
nodicaulis*









*Festuca elatior*



# FESTUCA ELATIOR. TALL FESCUE GRASS.

FESTUCA Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2 valvis. Spicula oblonga, teretiuscula, glumis acuminatis.

- Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.  
 FESTUCA *elatior* panicula decomposita, primo nutante, florente suberecta, spiculis ovato-lanceolatis acutis muticis, foliis planis.  
 FESTUCA *elatior* panicula secunda erecta, spiculis subaristatis, exterioribus teretibus. Linn. Syst. Vegetab. ed. 14. Murr. p. 118. Sp. Pl. p. 111. var. β. Schreb. Gram. t. 2. p. 34.  
 POA foliis latis alperis, locustis teretibus muticis, glumarum oris membranaceis. Hall. Hist. n. 1451.  
 FESTUCA *elatior* panicula secunda erecta ramosa, ramis binatis, spiculis ovatis subaristatis, foliis planis. Hudf. Fl. Angl. ed. 2. p. 47.  
 GRAMEN arundinaceum aquaticum panicula avenacea. Raii Syn. ed. 3. p. 411. 14.  
 GRAMEN paniculatum nemorosum latiore folio glabrum, panicula nutante, non aristata. Raii Syn. p. 411. 15.  
 GRAMEN arundinaceum locustis viridi spadiceis loliaceis, brevius aristatis. Scheuch. Agroft. p. 266.  
 GRAMEN loliaceum spica divisa pratense majus. Morif. Hist. Ox. 111. 184. t. 2. f. 15.

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|---|---|
| <p>RADIX perennis, fibris numerosis, fuscis, ramosissimis, subvillosis.</p> <p>CULMI bi-tripediales et ultra in pingui solo, erecti, teretes, glabri, nodosi, ad basin plerumque purpurei.</p> <p>FOLIA inferiora pedalia, aut sesquipedalia, tres quaterve lineas, lata, sensim acuminata, superne et ad margines scabriuscula, striata, inferne carinata, nitidula, amplexicaulia, basi ipsa e flavo virescente; membrana brevissima truncata, caulina breviora; Vaginæ striatæ, læves.</p> <p>PANICULA spithamæa, aut pedalis, primo plerumque nutans, postea suberecta; Rami plerumque binati, inæquales, in ramulos plerumque subdivisi, ad basin tumidi; Rachis angulosus, flexuosus, scabriusculus, nitidus.</p> <p>SPICULÆ ovato-lanceolatæ, teretiusculæ, viridi et purpureo variegatæ, suboctofloræ, nunc muticæ, fig. 2. nunc brevius aristatæ, fig. 1.</p> <p>CALYX: Gluma bivalvis, valvis inæqualibus, acuminatis, fig. 3.</p> <p>COROLLA bivalvis, valvis subæqualibus acutis, exteriore majore, et paulo longiore, fig. 4. interiore sæpe bifida, fig. 5.</p> <p>STAMINA: FILAMENTA tria, capillaria; ANTHERÆ lineares, flavæ, auct. fig. 6.</p> <p>PISTILLUM: GERME obovatum, læve; STYLI duo, patentes, plumosi, fig. 7, 8.</p> <p>NECTARIUM: Glumulae duæ, ad basin germinis, ovato-acuminatæ, denticulo laterali acuminato plerumque instructæ, fig. 9.</p> | <p>ROOT perennial, furnished with numerous brown fibres, much branched, and slightly villous.</p> <p>STALKS from two to three feet high, or more in a rich soil, upright, round, smooth, jointed, usually purple at the base.</p> <p>LEAVES towards the root, a foot or a foot and a half long, and three or four lines broad, gradually tapering to a point, above and on the edges roughish, striated, on the under side keeled, a little glossy, embracing the stalk, the very base of a yellowish green colour; membrane very short and truncated, leaves of the stalk shorter; Sheaths striated and smooth.</p> <p>PANICLE from a span to a foot in length, at first for the most part drooping, becoming afterwards nearly upright; Branches generally growing in pairs, unequal, for the most part subdivided into smaller ones, tumid at the base; Rachis angular, crooked, roughish, glossy.</p> <p>SPICULÆ ovato-lanceolate, roundish, variegated with green and purple, containing about eight flowers, sometimes without, fig. 2. sometimes having short awns, fig. 1.</p> <p>CALYX: a Glume of two valves, which are unequal and taper to a point, fig. 3.</p> <p>COROLLA composed of two valves, the valves nearly equal, pointed, the outermost larger and a little longer than the other, fig. 4. the inner one often bifid, fig. 5.</p> <p>STAMINA: three capillary FILAMENTS; ANTHERÆ linear and yellow, magnified, fig. 6.</p> <p>PISTILLUM: GERME inversely ovate, smooth; STYLES two, spreading, feathery, fig. 7, 8.</p> <p>NECTARY two small Glumes at the base of the germen, ovate with a long point, usually furnished on the side with a long slender tooth, fig. 9.</p> |
|---|---|

The three Grasses figured in the present number, differ so materially in their usual appearance when growing wild, that from the first we have been induced to consider them as distinct species; that we might however profit by the light which cultivation in numerous instances throws on species and varieties, we brought them into our garden, and after cultivating them many years in different soils and situations, find ourselves justified in the idea originally entertained.

The first of these, the *Festuca elatior*, is the least common of the three, and with us the most local, affecting and found chiefly in wet situations, as on the edges of the rivulets proceeding from the Thames, in the other grounds adjoining it, and more rarely in moist meadows and woods: we have observed it this year 1791, in great plenty in an osier-ground adjoining the Thames, nearly opposite the physic-garden, Chelsea; RAY mentions it as having been found by Mr. DOODY, between London and Chelsea: it grows in large tufts, and is rendered conspicuous by the breadth of its leaves, the height of its stems, and the drooping of its panicle, at least before it flowers.

The student must be careful not to mistake it for the *Bromus hirsutus* and *giganteus* already figured in this work, and which have some affinity to it at least in point of size.

In open meadows, being in every respect smaller, it is not so distinguishable.

It flowers about the latter end of June and beginning of July.

We find it to be a hardy, perennial, and very productive grass, and that it will grow on moderately dry soils better than might be expected; we apprehend however that it is too harsh and coarse, either for hay or pasture: we recommend it nevertheless to the notice of the Agriculturist; it probably may prove a good grass for soils which cannot be drained of their too great moisture, or which are apt to be overflowed.

In very luxuriant spots the leaves will sometimes be found half an inch wide, as VAILLANT describes it; in general, size excepted, we discover very little variation in the habit or characters of this grass: in regard to *Arista*, indeed, it varies as most other grasses are observed to do.

We have found it for the most part beardless, some authors describe it with, others without an *Arista*, *vid. Synon.* Captain DORSET, who has bestowed great attention on the British Grasses, sent me a specimen this year, gathered near Woolwich, the flowers of which were all shortly bearded.

Unfortunately for the science,  
On the awn there's no reliance.

We have frequently noticed it in those grasses, which, according to their character, should not have it, and wanting where it ought to have been; this summer in particular, I observed a plant of the *Avena elatior* without awns, the singularity of which prompted me to remove its root to my garden.

Our figure represents the *Festuca elatior* just coming into bloom.









# FESTUCA PRATENSIS. MEADOW FESCUE-GRASS.

FESTUCA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Spicula oblonga, teretiuscula, glumis acuminatis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

FESTUCA *pratensis* panicula secunda obliqua, spiculis muticis sublinearibus, foliis planis.

FESTUCA *elatior* Linn. Fl. Suec. n. 94.

FESTUCA *pratensis* panicula erecta, spiculis linearibus muticis, foliis planis. Hudson Fl. Angl. ed. 1. p. 37.

GRAMEN paniculatum elatius, spicis longis, muticis, squamosis. Raii Syn. p. 411. 16. Scheuch. Agroft. p. 202. 2.

PHŒNIX multiplici spicata panicula. Branched Darnel-Grass. Park. Theat. p. 1145.

GRAMEN loliaceum panicula multiplici et spicata. Tourn. Inst. p. 516. Scheuch. Agroft. p. 200. 1.

In the environs of London the *Festuca pratensis* is a very common grass, growing spontaneously in situations widely varied; we have observed it in the sand-pits at Charlton, and the other grounds near Battersea; also in various pastures, and by the sides of paths; but it abounds most in fertile meadows which are moderately moist: in many parts of Battersea meadows it may be found most plentifully.

It flowers about the middle of June; seed from a crop of it sown on ground which I occupy at Brompton, was ripe and cut by the end of the same month.

From long cultivation we have observed this grass continue perfectly distinct, and as we have found it to be a very hardy perennial, producing a great crop of desirable herbage, we have recommended it \* as one of the best of our British grasses.

Except in size, arising from luxuriance of soil, it is not subject to much variation.

Several authors have confounded this species with the *elatior*, to which it certainly bears great affinity: MORISON and RAY, two of our early writers have the credit of considering them as distinct. RAY, in his *Hist. Pl.* has happily displayed the character of the *pratensis*, and MORISON has well described and figured the *elatior*; it appears clearly also from the following words, which we find at the close of the latter's description of the *elatior*, that he regarded the *pratensis* as a distinct species, "alterum in pratis dimidio minus ejusdem formæ frequens invenitur, et tanquam distinctæ speciei habendum."—SCHEUCHZER gives a minute description of the *pratensis*, making two varieties of it without any very apparent reason: it is remarkable that LINNÆUS does not refer to this author either for his *elatior* or his variety of it. VAILLANT, as is evident from his references to RAY's two plants, considers the *elatior* and *pratensis* as the same, though LINNÆUS in his *Fl. Suec.* and *Spec. Plant.* confounds two plants in his references, and quotes indeed a figure in BARRELIER, which is neither *elatior* nor *pratensis*, but the *Festuca pinnata* Hudf. ed. 2. yet we suspect† from what he says of its place of growth, &c. for his specific description is a very inadequate one, that our *pratensis* is his *elatior*; his var. β of the *elatior* in the *Sp. Pl.* ed. 3. is clearly our *elatior*, but in the *Syst. Vegetab.* ed. 14. his last work, the *elatior* from a new reference to SCHEUCHZER is evidently made our *elatior*, and the variety is wholly lost sight of. Mr. HUDSON, in the first edition of his *Fl. Angl.* gave to this grass the name of *pratensis*, which, as the plant is chiefly found in meadows, is an extremely proper one, and as such we most readily adopt it: in the 2d edition of the same work, by some unaccountable mistake, for such it must be, he has been induced contrary to the opinion of all Botanists to consider it, together with the *loliacea* as varieties of the *Festuca fluitans*, asserting that they change to it when cultivated‡. We must observe that this is not only contrary to our experience in regard to culture, but that we have frequently, and this season particularly, observed the *pratensis* growing in several wet spots in Battersea meadows, close to the *fluitans*, and that both the grasses assumed their usual appearance; not to mention the different habits of these plants, the different form of their spiculæ, &c. the *fluitans* has a nectary differing widely from that of the *pratensis*, *elatior*, or *loliacea*, and which alone would remove any doubts, could such be really entertained on this subject.

The *pratensis* differs from the *elatior* in its usual place of growth; we have indeed found them growing close together; but betwixt Battersea and Vauxhall, where these plants grow abundantly, the *elatior* usually grows separately from the *pratensis*; and as we have before observed in the other grounds, where it has the advantage of moisture and some shade; the *pratensis* grows more dispersed in the open meadows, not forming such large tufts as the *elatior*, the *elatior* taking plants of equal strength and age, and which is to be understood through the whole of the subsequent comparison, is usually, nearly twice as high, and has foliage twice as broad, as that of the *pratensis*; the panicle in the *elatior* is not only much longer, but contains a far greater number of flowers, in the proportion of 64 to 128 taken from medium specimens; the panicle in the *pratensis* is usually once branched, in the other twice; in the *elatior* it droops greatly at first; in the *pratensis* but slightly; in the latter it leans to one side when in flower, and the flowers grow one way; in the *elatior* they grow more loosely, spreading more on all sides, but the spiculæ afford one of the most obvious distinctions; in the *pratensis* these are somewhat flat, linear, and obtuse; in the *elatior* more round, ovate, and pointed.

These two plants differ also about a fortnight or three weeks in their time of flowering.

- Fig. 1. Spicula.  
2. Glumæ Calycinæ.  
3, 4. Glumæ Corollacæ.  
5. Nectaria.  
6. Stamina.  
7. Pistillum.  
8. Semen glumis inclusum.  
9. Semen denudatum.

- Fig. 1. One of the Spiculæ.  
2. Glumes of the Calyx.  
3, 4. ——— Corolla.  
5. The Nectaries.  
6. The Stamina.  
7. The Pistillum.  
8. The Seed enclosed within the Glumes.  
9. The Seed taken out.

\* Vid. Practical observations on the British grasses best adapted for laying down or improving of meadows and pastures.

† Since the above was written we have had the satisfaction to learn from Mr. AFZELIUS, a Swedish Botanist of the first eminence now in London, who had the honour of being a pupil to LINNÆUS, and who meditates a new edition of the *Fl. Suec.* of that illustrious author, that the *pratensis* here figured is indisputably the *elatior* of the *Fl. Suec.* a name LINNÆUS had been induced to give it from its being the tallest festuca, he had then seen growing, for it appears that he was at that time a stranger to our *Festuca elatior*.

‡ α (*Festuc. fluitans*) sata in hortis mutatur in β (*loliacea*) et γ (*pratensis*) primo anno in β secundo in γ. Hudf. *Fl. Angl.* ed. 2. p. 47.





*Festuca foliacea*









*Festuca pratensis.*



# FESTUCA LOLIACEA. DARNEL FESCUE-GRASS.

FESTUCA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Spicula oblonga, teretiuscula, glumis acuminatis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

FESTUCA lolicea spicata, spiculis alternis sessilibus, compressis muticis. Hudf. Fl. Angl. ed. 1. p. 38.

POA locustis distichis, spicatis, muticis. Hall. Hist. n. 1452.

PHŒNIX longius spicata. Park. Theat. p. 1146. fig. to the left?

From the various appearances which this plant assumes, it may be styled the very Proteus of Grasses; in its most usual form it bears a resemblance to the *Lolium perenne*, and hence it has been considered by some as a variety of that plant, and as such it is figured by MORISON; when branched, which it frequently is, it approaches near to, and has been taken for the *Festuca pratensis*, but it indisputably is a distinct plant from both.

With us it grows spontaneously, and plentifully in moist fertile meadows.

In root, stalk, leaves, and habit, it comes so near to the *Lolium perenne* as scarcely to be distinguished from it, but usually exceeds it in height by about one third; the flowers in general grow in a simple spike, from eight inches to a foot in length, bending a little towards the top; the spiculæ are sessile, nearly an inch long, diverging from and for the most part placed obliquely to the rachis, sometimes standing on foot-stalks of different lengths, the lowermost ones about an inch long, nearly round, flattened a little on the sides, running out to a point; the uppermost ones shorter and somewhat broader, containing from ten to fifteen flowers; the calyx usually consists of two valves unequal in size, the innermost frequently small, lateral, and sometimes wanting; the other parts of the fructification are very similar to those of the *pratensis* and *elatior*.

The flowers, as we before observed, usually grow in a simple spike: this spike not unfrequently occurs branched; then its appearance is greatly altered, and it approaches nearer to the *festuca pratensis*; but in that state it is distinguished from it by the length of its spiked panicle; most commonly the branches grow from the base of the spike, sometimes from the middle; in Battersea meadows, where this grass is found abundantly, I have observed a variety, in which the spiculæ were shorter than usual, and two or three of them grew together from the same point; but the grand difficulty which the student has to encounter in relation to this grass is, when he meets with that variety of it, which having shorter and broader spiculæ than usual, resembles *Lolium perenne* so much, as to make him ready to exclaim, "they are the same:" in this dilemma there are three characters, some one of which I have never yet known to fail: first, the situation of the spiculæ with respect to the rachis; the edge of these in the *Lolium* is always parallel with the rachis, which gives the spike a flat appearance; in the *loliacea* they are placed more or less obliquely: secondly, in the *Lolium perenne* there is never more than one valve to the calyx, which is a strong one, usually two thirds as long as the spicula; in the *Fest. lol.* there is for the most part two, though it often happens that the inner one is very small, imperfect, and sometimes wanting altogether: but it happens very rarely indeed that the inner valve is wanting in all the spiculæ of a spike from the same root; should this character fail, our dependence must be, thirdly, on the length of the outer valve of the calyx, which rarely is more than one third as long as the spicula.

We have dwelt thus minutely, tediously we fear some may think, on these circumstances, from a wish to remove all doubts respecting this plant, and save such as may honour the Flora Lond. with their perusal, from experiencing the difficulties and perplexities in which it has frequently involved us.

The *Festuca lolicea* comes into bloom about the same time as the *pratensis*, it is therefore not so early as some other grasses; we have found it from many years culture a hardy perennial of very quick growth, producing a larger but somewhat similar crop to ray grass, succeeding best in a moist soil; it is however rather harsh and stalky; those qualities excepted it would appear to be equal in goodness to some of the best of our pasture grasses, and as such we recommend it to the notice of the Agriculturist: there is one circumstance attends this grass which we must not omit to make known, as it highly concerns its culture, and affords a somewhat unusual instance of vegetable economy: the cultivated plant has produced me no perfect seeds, either at Lambeth-Marsh or Brompton; the same nearly may be said of the *elatior*, while the *pratensis* has constantly produced good feeds in abundance.

In the first edition of Mr. HUDSON'S Fl. Angl. we find this *Festuca* under the name of *loliacea*, a name highly proper, whether we consider it as referring to the *Lolium perenne*, which it so much resembles, or to the affinity it bears to the genus *Lolium*; for it certainly is the connecting link of the *Festuca* and *Lolium*; we have to regret, however, that the ingenious author should derogate from the merit of making it a species, by considering it in the second edition of the same work as a variety of the *Festuca fluitans*.

## Partes Fructificationis,

Fig. 1. Spicula.

2. Glumæ calycinæ.
- 3, 4. — Corollacæ.
5. Nectaria.
6. Stamina.
7. Pistillum.

## Parts of Fructification.

Fig. 1. One of the Spiculæ.

2. Glumes of the Calyx.
- 3, 4. — Corolla.
5. The Nectaries.
6. The Stamina.
7. The Pistillum.







# LEONTODON HIRTUM. DEFICIENT DANDELION.

LEONTODON *Linn. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS. *Recept. nudum. Calyx imbricatus, squamis laxiusculis. Pappus plumosus.*

*Raii Syn. Gen. 6.* HERBÆ FLORE COMPOSITO NATURA PLENO LACTESCENTES.

LEONTODON *hirtum* calyce toto erecto, foliis dentatis hirtis: setis simplicissimis. *Linn. Syst. Veg. ed. 14. Murr. p. 715. Sp. Pl. ed. 3. p. 1123. Leers Fl. Herborn. ed. 2. p. 172.*

HEDYPNOIS *hispidum* var  $\beta$  *hirtum.* *Hudson Fl. Angl. ed. 2. p. 340.*

RHAGADIOLUS foliis femipinnatis asperimis. *Haller Hist. n. 7.*

HIERACIUM *pumilum faxatile asperum præmorfa radice.* *Bauh. Pin. 128. Raii Syn. ed. 3. p. 167.*  
Dwarf Rough Stone Hawkweed with bitten Roots.

HIERACIUM *pumilum Alpinum præmorfa radice.* Dwarf Mountaine Hawkweed. *Park. Th. p. 789. 5.*

Among the plants of the Class *Syngenesia*, there are some few whose seeds are not furnished with any pappus, or down, as the *Lapsana communis*, and *Rhagadiolus* of LINNÆUS; in the present plant the seeds in the outer row are destitute of pappus, or crowned only with a few very short bristles, while all the others are furnished in the usual manner. HALLER, the first author, perhaps, who noticed this appearance, considers it of sufficient consequence to found a genus on; he therefore makes it a *Rhagadiolus*, a genus also of TOURNEFORT's, united by LINNÆUS with the *Lapsana*.

LEERS has very minutely noticed the characters in which this plant differs from the *hispidum* of LINNÆUS, whose specific descriptions of the two plants are not sufficiently discriminating; the setæ, as LEERS has observed, and we have found by experience, varying greatly in both species, for *setis simplicibus*, we would therefore substitute *calycibus glabriusculis, seminibus exterioribus pappo destitutis*, either of which characters will distinguish them; the old Botanists distinction of *radice præmorfa* is not to be depended on in all cases, as it varies with the age of the plant.

When we figured in the 53d number of the *Flora Lond.* the *Leontodon hispidum*, we had no idea that the present plant was a distinct species, presuming too much on the character drawn from the nodding of the peduncle, which we had found highly useful in ascertaining that species; we considered it as a variety merely, arising from situation, and such should probably ever have regarded it, had not the singular circumstances attending the outer row of seeds been mentioned to us by a Botanist of superior discernment, Dr. BENJAMIN DAWSON, Minister of *Burgh*, in *Suffolk*; on examination we found the seeds exactly as he had represented them, and on comparing the two plants, found them to differ in a variety of particulars, the most striking of which we shall here enumerate.

The whole plant is much smaller, the leaves spread more on the ground, and are of a darker colour, the flower-stalks are more numerous, less upright, not only turning down or nodding at top, but frequently irregularly curled, especially in the young ones, beset with long crooked hairs, particularly towards the bottom, never furnished with small squamæ or leaves, the flower-buds, and flowers themselves much smaller in proportion to those of the *hispidum*, more resembling those of the *Leontodon autumnale*, the uppermost leaves of the calyx smooth, and at the point and edges of a deep purple or blackish colour; and that as far as we have observed invariably, many other characters might be pointed out; but these it is presumed, assisted by the figure, will be sufficient to make the plant known; in doubtful cases recourse may be had to the seed, and it will not be necessary to wait till that be ripe; the character appertaining to it will be visible on a nice examination, even when the plant is in flower: we may add, that the two plants cultivated in the same soil and situation, continue widely different.

Presuming that an English name for this species, drawn from a circumstance leading so immediately to a knowledge of the plant, would be superior to a literal translation of the name of *hirtum*, and which is so very similar to that of *hispidum*, we have been induced to give it that of *deficient*.

The *Leontodon hirtum* is frequent on most of the heaths and commons about town, particularly Hampstead-Heath, and Barnes-Common, where it flowers from June to August.

We rarely meet with the *hirtum* and *hispidum* on the same spot.

Fig. 1. Corollula.

2. Series exterior femin. pappo dest.

3. Semen hujusmodi seorsim posit.

4. Semen ex interior part. fl. pappo instruct.

Fig. 1. A single floret.

2. The outer row of seeds without any pappus.

3. One of the same kind placed singly.

4. A seed from the interior part of the flower furnished with pappus.





*Leontodon hirtum*









*Ranunculus Flammula.*



# RANUNCULUS FLAMMULA. SMALL SPEAR-WORT.

RANUNCULUS Linn. Gen. Pl. POLYANDRIA POLYGYNIA.

Cal. 5-phyllus. Petala 5, intra ungues, poro mellifero. Sem. nuda.

Raii. Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *Flammula* foliis ovato-lanceolatis petiolatis caule declinato. Linn. Syst. Vegetab. ed. 14. Murr. p. 515. Sp. Pl. ed. 3. p. 772. Fl. Suec. n. 494. Scop. Fl. Carn. ed. 2. n. 682. Hudf. Angl. ed. 2. p. 240. Procumbent Crow-Foot or Spear-Wort. Lightfoot Scot. V. 1. p. 288. An lus-mòr, Ghlais-leun Gaulis.

RANUNCULUS foliis ovato-oblongis integerrimis, caule procumbente. Fl. Lapp. 325.

RANUNCULUS caule declinato foliis elliptico-lanceolatis subferratis. Hall. Hist. 1182.

RANUNCULUS longifolius palustris minor. Baub. Pin. 180.

RANUNCULUS flammeus minor. Ger. 814. fig. 2. the lesser Spear-Wort; also, Ranunculus flammeus ferrat, fig. 3. emac. p. 961. fig. 2, 3. Raii Syn. ed. 3. p. 250. the lesser Spear-Wort.

RANUNCULUS palustris flammeus minor five angustifolius. Park. Theat. p. 1214.

RADIX perennis, fibrosa, fibris simplicibus, majusculis.	ROOT perennial, fibrous, fibres simple, and rather large.
CAULES pedales et ultra, suberecti, flexuosi, parum compressi, subangulosi, pubescentes, purpureo-virides, ramosi, Rami breves, alterni, divaricati.	STALKS a foot high or more, somewhat upright, crooked, a little flattened, slightly angular, downy, of a purplish green colour, branched; Branches short, alternate, divaricating.
FOLIA radicalia ovato-lanceolata, utrinque acuta, longè petiolata, petiolo canaliculari compresso; caulina remota, oblongo-lanceolata, brevius petiolata, petiolis basi dilatatis, vaginantibus; suprema et floralia linearia; omnia lævia, nunc integerrima, nunc plus minus dentata, dentibus obtusis, inæqualibus, callosis, subfuscis.	LEAVES next the root ovato-lanceolate, pointed at each end, standing on long foot-stalks, the foot-stalk hollow on one side, and flattened, those of the stalk oblong-lanceolate, standing on shorter foot-stalks, which are dilated, and sheathing at the base; the uppermost, and those next the flowers, linear; all of them smooth, sometimes perfectly entire, sometimes more or less toothed, teeth obtuse, unequal, callous, and of a brownish colour.
FLORES in caulium ramorumque summitate, flavi.	FLOWERS on the top of the stalk and branches yellow.
CALYX: PERIANTHIUM 5-phyllum, foliolis ovatis, obtusis, villosiusculis, concavis, lutescentibus, deciduis, fig. 1.	CALYX: a PERIANTHIUM of five leaves, which are ovate, obtuse, slightly villous, concave, yellowish and deciduous, fig. 1.
COROLLA: PETALA 5, calyce triplo longiora, rotundato-subobcordata, patentia, parum concava, flava, superne splendentia, ungue brevissimo, fig. 2.	COROLLA: five PETALS, thrice as long as the calyx, roundish, and somewhat inversely heart-shaped, spreading, slightly concave, yellow, on the upper side glossy, claw very short, fig. 2.
NECTARIUM: foveola in ungue cujusvis petali.	NECTARY: a little cavity in the claw of each petal.
STAMINA: FILAMENTA plurima, ad 30, Corolla multo breviora; ANTHERÆ erectæ, oblongæ, didymæ, flavæ.	STAMINA: FILAMENTS numerous, to thirty, much shorter than the Corolla; ANTHERÆ upright, oblong, double, and yellow.
PISTILLUM: GERMINA numerosa in capitulum collecta; STYLI nulli; STIGMATA reflexa, fig. 3.	PISTILLUM: GERMINA numerous, forming a little head; STYLES none; STIGMATA bent back, fig. 3.

The *Ranunculus Flammula* grows plentifully with us in marshy places, and especially in the wet, and more boggy parts of heaths and commons, where it flowers from June to September.

The latter part of LINNÆUS's description of this plant, does not accord with the appearance it usually assumes with us, *caule ascendente*, which is the reverse of *declinato*, is indeed more applicable to it, not but the plant frequently grows nearly upright, as the old authors have represented it, though not so perfectly upright as the *Lingua*. Mr. HUDSON's english name of procumbent, as it implies a greater approximation to the earth, is still more objectionable; nor can much be said in favour of BAUHIN's name of *longifolius*, which some have adopted, as it gives an idea of a longer leaf than the plant has. The old Botanists called these two species of *Ranunculus Spear-Worts*, from the shape of their leaves, the great and lesser. Mr. RAY and Mr. LIGHTFOOT adopted those names, and we see no good reason why they should be discontinued.

The



The small Spear-Wort is one of those plants which is subject to great variation; DODONÆUS has observed, that in Holland, where it grows luxuriantly, it acquires the height of two cubits; in the cold barren soils of mountainous countries it is altogether as diminutive; in proportion to its strength, appears to be the uprightness of its growth; on the stony margins of lakes, HALLER observed it to be small and creeping, with linear leaves; as it receded from such situations, it became taller, and finally assumed its usual appearance: in this small and creeping state authors have considered it as a species; as such LINNÆUS has adopted it under the name of *reptans*, and Mr. LIGHTFOOT figured it on the frontispiece to the second volume of the *Flora Scotica*; but when the one described, and the other figured it as a species, they expressed their doubts of its being such: SCOPOLI also is of opinion that the *reptans* is no other than a variety, arising from soil and situation.

The leaves are usually toothed, especially the upper ones; sometimes they may be found entire, and sometimes more deeply indented, or serrated on their edges; the variety in this latter state the old authors describe, and figure as a species.

Instinct rarely fails in directing graminivorous animals to reject such herbs as would prove injurious to them, hence we seldom find this and the other acrid species of Crow-Foot eaten by cattle, but we know that under certain circumstances they will sometimes err, and become poisoned or diseased: GERARD says, "this plant is called *Banewort* by some, because it is dangerous and deadly for sheepe, and that if they feede of the same, it inflameth their livers, fretteth and blistereth their guts, and entrails:" DODONÆUS, from whom GERARD probably borrows this account, reports the same, and that the plant takes its name in the Netherlands, from its pernicious effects on this harmless and useful race: HALLER quotes an author (*Le Noble Lait* p. 12.) who says, that the livers of horses which had fed on this *Ranunculus* became rotten, and full of little bladders of water, as well as small animals resembling flounders; if the rot in sheep be occasioned by their feeding on any particular plant, and authors be not mistaken in what they say of this, none appears more likely to occasion it than the present one. Kine\* are said to feed on it without injury.

Acrid as this *Ranunculus* is, and injurious as it may be to the larger animals, we observed on the 9th of last July, 1791, small black larvæ feeding on its flower buds and stamina, in those little kind of dells on Barnes-Common, where the water had been dried up, and where grew *Callitriche*, *Peplis*, &c. we suspect they were the larvæ of some coleopterous insect; and on the under side of a leaf of another plant of the same species, we discovered a cluster of eggs, sixty-four in number, deposited most probably by some species of moth; the leaves of this and of every other species of *Ranunculus* growing wild, or in our gardens, are yearly disfigured, and in some seasons destroyed by a very minute intercutaneous larva or maggot, producing a small fly, which we have named *Musca ranunculi*, and of whose history it is our intention to give an account elsewhere; we have represented one of the leaves on the plant as it appears marked by this insect.

Mr. LIGHTFOOT informs us, that the *Ranunculus Flammula* is used in many parts of the highlands to raise blisters; for this purpose, in the island of Jura, and other parts on the coast, the leaves are well bruised in a mortar, and applied in one or more limpet shells to the parts where the blisters are to be raised.

\* Boves autem licet magnam comedunt hujus copiam ab hac affici non observavi. Brugm.





# SCILLA AUTUMNALIS. AUTUMNAL SQUIL.

SCILLA. Linn. Gen. Pl. HEXANDRIA MONOGYNIA.

Cor. 6-petala, patens, decidua. Filamenta filiformia.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

SCILLA autumnalis foliis filiformibus linearibus, floribus corymbosis, pedunculis nudis adscendentibus longitudine floris. Linn. Syst. Vegetab. ed. 14. Murr. p. 329. Sp. Pl. 443.

HYACINTHUS stellaris autumnalis minor. Baub. Pin. p. 47. et major ejusd. p. 46.

HYACINTHUS autumnalis major et minor. Clus. Hist. 1. p. 185. fig. 1, 2. Magn. Bot. Monsp. p. 134.

HYACINTHUS autumnalis. Winter Hyacinth.—autumnalis major. Great Winter Hyacinth. Ger. Herb. p. 98. f. 3, 4. emac. 110. fig. 1, 2.

HYACINTHUS autumnalis minor. The lesser Autumn Jacinth. Park. Parad. p. 132.

RADIX bulbus subrotundus, albidus, tunicatus, sapore subdulci, mucilaginosus, fibrillis albidis.

ROOT a roundish bulb, of a whitish colour, coated, of a sweetish taste and mucilaginous, the fibres whitish.

FOLIA plurima, radicalia, linearia, scapo breviora, glabra, interne canaliculata, externe convexa, striata, recurva, obtusiuscula.

LEAVES numerous, from the root, linear, shorter than the scapus, smooth, internally concave, externally convex and striated, bent back, somewhat blunt at the points.

SCAPUS subtriuncialis, erectus, teres, striato-angulosus, ad lentem villosus, nudus, inferne ex albivirefcens, superne purpurascens.

SCAPUS about three inches high, upright, round, between scored and angular, villous if magnified, naked, below of a whitish green colour, above purplish.

FLORES 5—12 racemosi, e purpureo-cærulefcences.

FLOWERS from 5 to 12, growing in a racemus, of a blueish purple colour.

PEDUNCULI adscendentes, longitudine floris, ebracteati.

PEDUNCLES ascending, the length of the flower, without a bractæa.

COROLLA: PETALA sex, ovata, quorum tria paulo angustiora, obtusiuscula, apice callosa, e viridifulca, fig. 1.

COROLLA: six PETALS, ovate, three of which are a little narrower than the rest, callous and of a greenish brown colour at the tips, fig. 1.

STAMINA: FILAMENTA 6, purpurascencia, lata, subulata; ANTHERÆ subcordatæ, magnæ, primo saturate purpureæ, emissio polline nigricantes, fig. 2.

STAMINA: six FILAMENTS, of a purplish colour, broad, tapering, ANTHERÆ somewhat heart-shaped, large, at first of a deep purple colour, on shedding of the pollen blackish, fig. 2.

PISTILLUM: GERMEN subovatum, cærulefcens, lineis sex albidis impressis notatum; STYLUS trigonus, trifurcatus, longitudine staminum; STIGMA simplex, fig. 3.

PISTILLUM: GERMEN somewhat ovate, blueish, marked with six impressed white lines; STYLE three-cornered, three-grooved, the length of the stamina; STIGMA simple, fig. 3.

PERICARPIUM: CAPSULA subrotunda, trivalvis, valvis ovatis, concavis, dissepimento per medium divisis, maturato semine patentibus, fig. 4.

SEED-VESSEL: a roundish CAPSULE of three valves, the valves ovate, concave, divided by a partition running through the middle, expanding wide when the seed is ripe, fig. 4.

SEMINA sex, duo singulam valvam implentia, majuscula, nigricantia, nitidula, trigona, latere exteriore convexo, duobus interioribus planis, fig. 5.

SEEDS six, two filling each valve, rather large, blackish, shining, three-cornered, the outer side convex, the two inner ones flat, fig. 5.

Most of the old writers who treat of the *Scilla autumnalis*, describe two kinds, a *major* and a *minor*; but as these distinctions are founded chiefly on the size of the plant, and which depends on accidental circumstances, they are not deserving of much attention. GERARD was not aware of its being a British native. PARKINSON informs us, that he found it growing on a bank by the Thames side, at the hither end of Chelsea; and he notices a variety of it with white flowers.

In Mr. RAY's Synopsis it is described to grow on Blackheath, on certain parts of which it may still be found in abundance; and, in the same work, it is said to be found plentifully on St. Vincent's-Rock, near Bristol; there also it still exists in great profusion, as I am assured by Dr. FORD, my much valued friend, who gave me this autumn many plants which he had gathered there, the bulbs of which were in general much larger than those which grow about London: it is found also near Ditton, on Moulsey-Hurst, over against Hampton-Court, and not many years since was observed sparingly on Kew-Green.

It usually grows in pastures where the soil is a light and not very fertile loam; in its wild state it rarely exceeds three inches in height, cultivated it acquires twice its usual size, and from one bulb spring several stems: it begins to flower about the third week in August, and continues in blossom three weeks or a month. In most of the wild specimens the flowering stalks come up without the leaves, in some few the leaves accompany them, and afterwards acquiring their full size, appear above ground the greatest part of the year; but, being small and grassy, they do not readily lead to a discovery of the plant.

Such as are desirous of cultivating this little herald of autumn, may raise it from seeds, which it produces in plenty, and from which CUSCUS informs us, that he obtained flowering plants the third year; it may be increased also, though slowly, by its bulbs, which should be planted in a light loamy soil, and placed in a dry part of the garden; the best mode is to plant the bulbs in a pot of suitable earth, and plunge them in the border, they will thus be secured from being lost (which, from their size, they would be apt to be) when the border is dug up; the same treatment is applicable to any other small hardy bulbs.













*Hieracium umbellatum*



# HIERACIUM UMBELLATUM. BUSHY HAWKWEED.

HIERACIUM. *Linn. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Recept. nudum. Cal. imbricatus, subinde calyculatus, ovatus. Pappus simplex, sessilis.*

*Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO NATURÆ PLENO LACTESCENTES.*

HIERACIUM *umbellatum* foliis linearibus subdentatis sparsis, floribus subumbellatis. *Linn. Syst. Vegetab. p. 719. Sp. Pl. p. 1131. Fl. Suec. 704. Hall. Hist. n. 34.*

HIERACIUM *majus angustifolium.* *Clus. Hist. 2. p. 40.*

HIERACIUM *fruticosum angustifolium majus.* *Baub. Pin. 129. Park. 801.*

HIERACIUM *primum.* *Dod. Pempt. p. 638.*

HIERACIUM *Intybaceum.* *Ger. Herb. p. 234. f. 6. Endives Hawkeweede, emac. n. 298. f. 5.*

PULMONARIA *angustifolia glabra.* *Petiv. H. B. 13. 11.*

PULMONARIA *graminea.* *Petiv. H. B. 13. 12. Raii Syn. p. 168. Narrow-leav'd bushy Hawkweed. Hudson Fl. Angl. ed. 2. p. 346. Lighfoot Fl. Scot. p. 439.*

RADIX perennis, fibrosa, fibris longis, simpliciusculis, undique divergentibus, fuscis.	ROOT perennial, fibrous, fibres long, mostly simple, spreading on all sides, of a brown colour.
CAULIS pedalis, ad tripedalem et ultra, erectus, foliosus, rigidus, viridi-purpurascens, inferne lævis, simplex, superne scabriusculus, ramifusus; sæpe gibbo insigni ab insecto quodam formato deformis.	STALK from one to three feet high or more, upright, leafy, rigid, of a greenish purple colour, below smooth, simple, above roughish and branched, often deformed by one or more tubercles occasioned by some insect.
FOLIA numerosa, sparsa, erectiuscula, sessilia, linearia, aut lanceolato-linearia, plus minus remote et obsolete dentata, nonnunquam integerrima, venosa, supra lævia, subtus scabriuscula, margine setulis rigidis ciliata.	LEAVES numerous, placed in no regular order, somewhat upright, sessile, linear, or lanceolate-linear, more or less remotely and faintly toothed, sometimes perfectly entire, veiny, above smooth, beneath roughish, edged with minute rigid hairs.
FLORES majusculi, lutei, in pedunculis ramosis.	FLOWERS rather large, yellow, on branched flower-stalks.
PEDUNCULI varie divisi, inæquales, umbellas spurias subinde representantes, superne parum incrassati, squamula foliosa una alterave instructi.	PEDUNCLES variously divided, unequal, sometimes representing a sort of umbel, above slightly thickened, furnished with one or more leafy scales.
CALYX ovatus, basi parum ventricosus, e livido aut nigricante virens, imbricatus, foliolis exterioribus reflexis.	CALYX ovate, bellying out somewhat at the base, of a livid or dusky green colour, imbricated, the outer leaflets or scales turned back.
COROLLA: composita, æqualis; COROLLULÆ hermaphroditæ, monopetalæ, ligulatæ, truncatæ, quinque-dentatæ, fig. 1.	COROLLA: the general one compound and equal; the FLORETS hermaphrodite, monopetalous, ligulate, truncated, and five-toothed, fig. 1.
STAMINA: FILAMENTA 5, capillaria, intra tubum Corollæ; ANTHERÆ in cylindrum coalitæ, fusco-luteæ.	STAMINA: five capillary FILAMENTS, within the tube of the Corolla; ANTHERÆ forming a cylinder, of a brownish yellow colour.
PISTILLUM: GERMEN subovatum; STYLUS filiformis, staminibus longior; STIGMATA duo, recurva, fig. 2.	PISTILLUM: GERMEN somewhat ovate; STYLE filiform, longer than the stamina; STIGMATA two, turned back, fig. 2.
SEMINA oblonga, nigricantia; PAPPUS simplex, sessilis, lutescens, fig. 3.	SEEDS oblong, blackish; Down simple, sessile, yellowish, fig. 3.

The *Hieracium umbellatum* grows on dry, sandy, or gravelly heaths, and in uncultivated places near London: in such situations, and in such only, we have observed it about Hampstead, Barnet, and Charlton; in the old sand pits near the bottom of the lane leading down from Charlton-Church, on the left-hand side, it may be found in great plenty.

It varies in size, from one to three feet or more; in the smaller specimens the leaves are more entire, frequently altogether so, and the stalk is sometimes simple and uniflorous; in the larger ones the stalk is much branched, and the leaves are more toothed, or jagged, when cultivated in a garden, where it grows most readily: it loses in common with most of the plants of the same class, its natural character, and especially its umbellated appearance, which indeed it rarely has in perfection; the most obvious character of the species consists in the narrowness of its leaves.

It flowers in August and September.

Its stalks are very frequently beset with gouty tubercles of various forms and sizes, which contain within them a number of small maggots, in different cells, and which most probably produce some species of Cynips.

LINNÆUS notices its being used in Scania as a dye, communicating to woollen an elegant and beautiful colour, *Fl. Suec.*







# CARDUUS POLYACANTHOS. PRICKLIEST THISTLE.

CARDUUS. *Linn. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Calyx* ovatus, imbricatus, squamis spinosis. *Recept. pilosum.*

*Raii Syn. Gen. 9.* HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO SIVE CAPITATÆ.

CARDUUS *polyacanthos* foliis decurrentibus margine spinosis, ramis patulis, calycibus subrotundis laxis, squamis subulatis patentibus subinermibus.

CARDUUS *acanthoides* foliis decurrentibus sinuato-pinnatifidis margine spinosis, calycibus solitariis pedunculatis erectis villosis. *Linn. Sp. Pl. ed. 3. p. 1150. Fl. Suec. ed. 2. n. 718. Jacq. Fl. Austr. V. 3. t. 249. polyacanthos. Schreb. Lips. p. 15.*

CARDUUS *crispus*. *Linn. Lightfoot Scot. V. 1. p. 452.*

CARDUUS *crispus* foliis decurrentibus sinuatis margine spinosis, calycibus globosis pedunculatis solitariis erectis. *Hudson Fl. Angl. ed. 2. p. 350.*

CARDUUS caule crispo. *J. B. 3. p. 50. Raii Hist. V. 1. p. 309. Syn. ed. 3. p. 194.*

CARDUUS spinosissimus angustifolius vulgaris. *Baub. Pin. 385. ?*

CARDUUS spinosissimus vulgaris Polyacantha. *Theophrast. Lob. Ic. 21.*

POLYACANTHA Theophrasti. *Tabern. Ic. 701.*

CARDUUS polyacanthos capitulis pluribus nutantibus ramosior. *Morif. Ox. III. 153. n. 11.*

ONOPORDON. Thistle upon Thistle. *Ger. Herb. p. 1010.*

CARDUUS polyacanthos. The most prickly Thistle. *Park. Tb. p. 981. n. 5.*

CARDUUS sylvestris primus. *Dod. p. 739. f. 1. Ger. emac. p. 1173.*

RADIX annua, simplex, albida, pluribus fibris capillata.

CAULIS 2-4 pedalis et ultra, erectus, levissime sulcatus, hirsutus, 4-5 fariam alatus, alæ laciniatæ, spinosissimæ, fistulosus, sæpe usque ad basin ramifusus; Rami prælongi, patentes, apice floriferi.

FOLIA sessilia, decurrentia, lanceolata, inciso-lobata, lobis oppositis, sinuato-dentata, crispatula, margine spinosa, supra viridia, subtus albida, hispido-tomentosa.

FLORES mediocres, terminales, plerumque aggregati, purpurei, odorati, sessiles, aut breviter pedunculati, erecti aut subnutantes.

CALYX communis subrotundus, laxè imbricatus, squamis subulatis, reflexo-patulis, subtomentosis, mitibus.

COROLLA composita, tubulosa, uniformis, calyce duplo longior; Corollulæ hermaphroditæ, subæquales, reflexæ, fig. 1.

SEMEN oblongum, læve, pallide fuscum, leviter striatum, utrinque obtusum; Pappus simplex, fig. 2. auct. fig. 3.

ROOT annual, simple, whitish, furnished with numerous fibres.

STALK from two to four feet high or more, upright, very slightly grooved, hirsute, furnished with four or five wings, which are jagged and extremely prickly, branched, often to the bottom; Branches very long, spreading, producing flowers at their extremities.

LEAVES sessile, decurrent, lanceolate, cut into lobes, which are opposite, scalloped, toothed, and a little curled, spinous on the edge, above green, beneath whitish, and somewhat woolly.

FLOWERS middle-sized, terminal, for the most part clustered, purple, odoriferous, sessile or standing on short footstalks, upright or somewhat drooping.

CALYX common to all the florets, nearly round, loosely imbricated, scales tapering to a point, spreading, and somewhat reflexed, slightly cottony, and harmless.

COROLLA compound, tubular, uniform, as long again as the calyx; Florets hermaphrodite, nearly equal, and reflexed, fig. 1.

SEED oblong, smooth, of a pale brown colour, slightly striated, blunt at both ends; Down simple, fig. 2. magn. fig. 3.

The prickly armour worn by most of the Cardui, renders them a truly formidable tribe; our Northern brethren have chosen the Thistle as an emblem of their motto, "*Nemo me impune lacessit*:" there is however a considerable difference in the strength and number of their spines in different species, in some they are so few, and those so short, and soft, that the plant may be handled with perfect safety; while in others they are so sharp, and so completely beset every part of the plant, that it cannot even be touched without the greatest caution: of the latter kind is the present species, which divers of the ancient Botanists distinguished by the name of *polyacanthos* (many spined) a word, in its strict sense applicable to various other species; but by this expression they doubtless meant prickly in the extreme, *quasi spinosissimus*, conformable to which is the old English name of *Thistle upon Thistle*. On comparing this species with all our English Thistles, as they grew together in my garden, I found that the spines in this were actually more numerous than in any of the rest, though the *palustris* was not much inferior to it in point of number; the term, therefore, as far as regards our English Thistles, is founded in propriety.

Professor SCHREBER, author of the best treatise on Grasses the world ever saw, of the eighth edition of the *Genera Plantar.* of LINNÆUS, and of many other inestimable treatises in Botany and Natural History, in treating of this Thistle, has adopted the above-mentioned name of *polyacanthos*; he regards it at the same time as the *acanthoides* of LINNÆUS, which name he relinquishes, because he considers it as more properly belonging to the *acanthoides* of J. BAUHINE (our *tenuiflorus*).

This species is very common in the environs of London, by the sides of roads, on the borders of fields, and under hedges, flowering from June to September: it is sometimes found with white flowers, and according to situation is observed to vary in size from two to five or more feet, to be more or less hairy, and to have its flowers more or less clustered.

In its general appearance it approaches near to the *palustris*, with which students are apt to confound it, and from which it may be distinguished in various ways: its place of growth serves to discriminate it, as it affects dry, not moist situations, in which alone the *palustris* is found; it is more branched, and the extreme flowering branches are more bowed or bent downwards, as our figure represents; but this character is not to be depended on solely, they being often perfectly upright, as figured by Professor JACQUIN: the Calyx affords the most unerring mark of distinction between the two, the scales in that of the *palustris* are closely imbricated, as in the *arvensis*, *acaulis*, and some others, while in the present plant they are loose, much resembling those of the Burdock, and almost as harmless; RAY, who has described it most admirably, observes also, that the flowers are more odoriferous.

We last summer observed the larva of the *Papilio Cardui*, feeding abundantly on its foliage. In an agricultural point of view, it is scarcely worth noticing, being an annual, and seldom abounding either in fields or gardens.





*Cirsium polyacanthos*









*Carduus tenuiflorus.*



# CARDUUS TENUIFLORUS. SLENDER-FLOWER'D THISTLE.

CARDUUS. *Linn. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Calyx* ovatus, imbricatus, squamis spinosis. *Recept.* pilosum.

*Raii Syn. Gen.* 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO SIVE CAPITATÆ.

CARDUUS *tenuiflorus* foliis decurrentibus margine spinosis, ramis strictis, calycibus aggregatis sessilibus oblongo-conicis, squamis erecto-patulis pungentibus.

CARDUUS *acanthoides* foliis decurrentibus pinnatifidis, margine spinosis, calycibus aggregatis sessilibus subcylindricis glabris. *Lightfoot Fl. Scot. V. 1. p. 451.* Greywelled Thistle.

CARDUUS *acanthoides* foliis decurrentibus sinuato-dentatis, margine spinosis, calycibus ovatis terminalibus aggregatis sessilibus, squamis acuminatis erectiusculis. *Hudson Fl. Angl. ed. 2. p. 351.* Welled Thistle.

CARDUUS alis caulinis latissimis, foliis semipinnatis, pinnis angulosis, spinosis, floribus longis, fasciculatis. *Hall. Hist. 166.*

CARDUUS *acanthoides*. *J. Baub. Hist. 3. p. 516.*

CARDUUS spinosissimus capitulis minoribus. *P. B. Raii Hist. V. 1. p. 309. Syn. ed. 3. p. 194.* Welled Thistle with small flowers.

CARDUUS polyacanthos, capitulis longioribus et tenuioribus foliis albicantibus. *Morif. Hist. 3. p. 153.*

RADIX annua.

CAULIS bi-tripedalis, erectus, basi ramosus, ramis paucis, subelongatis, erectis, strictis, teretiusculis, leviter fulcatis, tomentosis, maxime versus summitates, alatis, alis latis, spinosis.

FOLIA caulina sessilia, decurrentia, venosa, supra glabriuscula, viridia, pilis adpressis albidis oblita, subtus tomentosa, costa albida, margine sinuata, dentata, spinosa, spinis longis, lutescentibus; radicalia ovato-oblonga, obtusa, incise lobata, lobis latis, obtusis, confluentibus.

FLORES in ramorum summitatibus congesti, sessiles, parvi, pallide purpurei, aut carnei.

CALYX: communis oblongo-conicus, imbricatus, squamis erecto-patulis, lineari-elongatis, spinosis, basi albidis, medio viridibus, apice in spinas lutescentes longitudine flosculorum exeuntibus.

COROLLA composita, tubulosa, uniformis; Corollulae hermaphroditæ, subæquales, fig. 1.

SEMINA et Pappus eadem fere ut in Card. Polyacanth. fig. 2.

ROOT annual.

STALK from two to three feet high, upright, branched at the base, branches few, long, upright, perfectly straight, roundish, slightly grooved, cottony, particularly towards the tops, winged, wings broad and spinous.

LEAVES of the stalk sessile, decurrent, veiny, above smoothish, green, beset with whitish hairs pressed close to the stem; the middle whorls, the ones below it, together, and from the base long, and yellowish; radical leaves ovate-oblong, obtuse, divided into lobes which are broad, obtuse, and clasping together.

FLOWERS in clusters on the tops of the branches, sessile, small, of a pale purple or flesh-colour.

CALYX: common to all the florets of an oblong-conical shape, imbricated, scales upright, spreading at top, long and linear, spinous, whitish at the base, green in the middle, and terminating in yellow spines the length of the florets.

COROLLA compound, tubular and uniform; the Florets hermaphrodite, and nearly equal, fig. 1.

SEEDS and Down nearly the same as in the prickliest Thistle, fig. 2.

J. BAUHINE appears to be the first writer who accurately determined this Carduus, which he calls *acanthoides*; RAY afterwards gave an excellent description of it in his *Hist. Pl.* and MORISON characteristically defined it in his *Hist. Oxon.* LINNÆUS in his *Spec. Pl. ed. 3.* applies J. BAUHINE's name of *acanthoides* to a very different Thistle, our *polyacanthos*, referring to it at the same time the synonyms of J. BAUHINE, RAY, and MORISON, which truly belong to the present species (vid. synon.) and which it is probable LINNÆUS never saw, as it is not a Swedish plant, nor a very general European one; Mr. LIGHTFOOT finding LINNÆUS's description not to accord with our plant, gave a new specific description to it, retaining the name *acanthoides*, and Mr. HUDSON does the same; it may therefore be expected, that we should continue the term *acanthoides* first imposed, and so far properly belonging to it, but we are too friendly to reform to do, conceiving that the term *tenuiflorus* will almost of itself discriminate the species, while *acanthoides* means comparatively nothing, we make no scruple to change the name.

This thistle is a very common one in the environs of London, growing in the very suburbs; it affects warm, sheltered situations, and is therefore most frequently found at the foot of paling, walls, hedges, and on ditch banks, flowering from June to August: Dr. GOODENOUGH observes to me, that he has found it to be a common plant near the sea side, but rare in the more interior parts of the kingdom; this probably arises from its being a somewhat tender plant.

It is obviously distinguished from all our other Cardui by its upright mode of growth, by the breadth of the wings on its stalks, whence its name of welled, the greyish appearance of its foliage, and, above all, by its long, clustered heads, producing small flowers, of a pale purple or flesh colour, little longer than the very sharp spines of its calyx.

Size excepted, we have not found it subject to much variation.

We often meet with specimens much larger, and with more numerous flowers, than is shewn in our figure, which is not intended to represent the plant in its most luxuriant state.

The Farmer or Gardener have little or no cause to complain of it.









# VALERIANA OFFICINALIS. WILD VALERIAN.

VALERIANA. Linn. Gen. Pl. TRIANDRIA MONOGYNIA.

Cal. o. Cor. 1. petala, basi hinc gibba, supera.

Raii Syn. Gen. 10. HERBÆ FLORE PERFECTO SIMPLICI, SEMINIBUS NUDIS SOLITARIIS, SEU AD SINGULOS FLORES SINGULIS.

VALERIANA *officinalis* floribus triandris, foliis omnibus pinnatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 80. Sp. Pl. ed. 2. p. 40. Fl. Succ. n. 34. Scop. Fl. Carn. ed. 2. n. 39. Berg. Mat. Med. p. 30. Hudson Fl. Angl. ed. 2. p. 12. Lightfoot Scot. V. 1. p. 85.

VALERIANA foliis pinnatis, pinnis dentatis. Hall. Hist. n. 210.

VALERIANA *sylvestris* major. Baub. Pin. 164. Ger. Herb. p. 917. fig. 2. Great Wilde Valerian, *emac.* 1075. fig. 2. Threlk Syn.

VALERIANA *sylvestris*. Wilde Valerian. Park. Tb. p. 123. f. 13.

VALERIANA *sylvestris* magna aquatica. J. Baub. III. 2. 211. Raii Syn. ed. 3. p. 200. Great Wild Valerian.

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| <p><b>RADIX</b> perennis, subpræmorsa, fibrosa, fibris plurimis, majusculis, stolonem unum alterumve longe protensum e caudice emittens.</p> <p><b>CAULIS</b> pedalis ad tripedalem, et ultra, erectus, teres, sulcatus, fistulosus, hinc hirsutulus, terminans in ramos floriferos brachiatim dispositos.</p> <p><b>FOLIA</b> opposita, connata, basi subtus barbata, pinnata; Costa leviter pubescens; Foliola 11 ad 13, nunc opposita, nunc alterna, subdecurrentia, lanceolato-oblonga, acutiuscula, inæqualiter remoteque dentata, venoso-rugosa, subtus pallidiora, pilosiuscula, foliolium terminale trilobatum; Folia suprema floralia trifida, et subsimplicia.</p> <p><b>FLORES</b> subcorymbosi terminales, albido-carnei, odore singulari præditi; PEDUNCULI ramossissimi, multoties dichotomi.</p> <p><b>BRACTEÆ</b> lanceolatae, acuminatae, connatae, albentes, nervo viridi.</p> <p><b>CALYX</b> nullus, margo superus minutus, fig. 1.</p> <p><b>COROLLA</b> tubulosa, tubo a latere inferiore nectarifero, gibbo, fig. 2. Limbo quinquefido, laciniis obtusis, fig. 3.</p> <p><b>STAMINA</b>: FILAMENTA tria, erecta, Corollâ longiora, amisso polline recurvantia; ANTHERÆ subrotundæ, floribus concolores, fig. 4.</p> <p><b>PISTILLUM</b>: GERMEN conicum, inferum; STYLUS filiformis, longitudine staminum; STIGMA crassiusculum, obtusum, album, trifidum, fig. 5.</p> <p><b>SEMINA</b> solitaria, ovato-oblonga, compressa; Pappus radiis duodecim plumosis, basi purpurascens, fig. 6.</p> | <p><b>ROOT</b> perennial, somewhat stumped, fibrous, fibres numerous, large, sending out from its crown one or more long-extended creeping shoots.</p> <p><b>STALK</b> from one to three feet or more in height, upright, round, grooved, hollow, in some parts hairy, terminating in flowering branches disposed crosswise.</p> <p><b>LEAVES</b> opposite, connate, bearded at the base on the under side, pinnated; the Midrib somewhat downy; the Leaflets or Pinnæ 11 to 13, sometimes opposite, sometimes alternate, slightly decurrent, lanceolate-oblong, rather pointed, unevenly and distantly toothed, veiny, wrinkled, paler on the under side, slightly hairy; the terminating Leaflet three-lobed; the uppermost leaves on the flowering branches trifid, and sometimes entire.</p> <p><b>FLOWERS</b> growing in a kind of corymbus, terminal, of a pale flesh colour, and singular smell; FLOWER-STALKS much branched, and many times divided.</p> <p><b>FLORAL-LEAVES</b>, lanceolate, acuminate, connate, whitish, with a green midrib.</p> <p><b>CALYX</b> none, a slight margin on the top of the Germen, fig. 1.</p> <p><b>COROLLA</b> tubular, the tube producing from its lower side a gibbous nectary, fig. 2. the Limb divided into five obtuse segments, fig. 3.</p> <p><b>STAMINA</b>: three upright FILAMENTS, longer than the Corolla, bending back when the antheræ have shed their pollen; ANTHERÆ roundish, of the same colour as the flowers, fig. 4.</p> <p><b>PISTILLUM</b>: the GERMEN conic, beneath the Corolla, STYLE thread-shaped, the length of the stamina; STIGMA thickish, obtuse, white, and trifid, fig. 5.</p> <p><b>SEEDS</b> single, ovato-oblong, compressed, furnished with a Pappus having twelve feathery rays, of a purplish colour at the base, fig. 6.</p> |
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The *Valeriana officinalis* here figured, grows wild with us in wet situations only, it more especially is found on the edges of wet ditches, often in oser-grounds, and in such situations is very common in most of the Southern parts of Great-Britain; sometimes, particularly in the Northern parts of the kingdom, it is found on more elevated and drier ground, where it becomes in every respect smaller, and more hairy; in such situations the roots are found to possess more fragrance, and are considered as preferable for medicinal purposes.

The flowers, when fresh, diffuse a peculiar kind of odour, almost too strong to be pleasant; the powerful smell of the dried root is known to most persons, and of this part of the plant cats are remarkably fond, not only eating it, but when they have an opportunity, perfuming themselves by rolling on it, and that on the fresh as well as dried roots; for I have often observed, that as the roots spread out near the surface of the ground, they find them out, and in gratifying their passion frequently destroy the plant in gardens; whenever they are insufferably mischievous in this or other respects, they may with certainty be caught in a wooden hutch trap, baited with Valerian root; we are not however wantonly to sacrifice this useful animal.

The *officinalis*, as well as some of the other species of Valerian, is very ornamental, but almost too large for the flower-garden, unless it be an extensive one; it flowers in June and July, and is easily cultivated, as it has creeping roots, which for medicinal purposes should be taken up early in the spring and carefully dried.

The mountain Valerian root has a strong, not agreeable smell, and an unpleasant, warm, bitterish, subacid taste; the strength of the smell and taste is the only mark to be depended on of its genuineness, and goodness. It is a medicine of great esteem in the present practice against obstinate hemicranæ, hysterical and the different kinds of nervous disorders, and is commonly looked upon as one of the principal antispasmodics. COLUMNA reports, that he was cured by it of an inveterate epilepsy, after many other medicines had been used in vain: on more extensive trials it has been found, in some epileptic cases to effect a cure, in several to abate the violence or frequency of the fits, and in many to prove entirely ineffectual: oftentimes, it either purges, or operates by sweat, or by urine, or brings away worms before it prevents a fit. The dose of the root in powder is from a scruple to a dram or two, which may be repeated if the stomach will bear it, two or three times a day. A remarkable instance of its efficacy in a Catalepsy is given by Mr. MUDGE: doses of half an ounce of the powder were exhibited twice a day, and a less quantity was found ineffectual.—Among the materials I have made trial of for covering its flavour, mace seemed to answer the best. *Lewis's Mat. Med. ed. Aik. p. 659.*

Dr. CULLEN considers it as an antispasmodic medicine of considerable efficacy, but observes, that he has frequently found it inefficacious, which he attributes partly to the best remedies failing in diseases which depend on a diversity of causes, and partly to the roots being employed in an improper condition; he is of opinion that it should be given in larger doses than is commonly done.





*Valeriana officinalis.*









*Primula officinalis.*



# PRIMULA OFFICINALIS. The Cowslip.

PRIMULA. *Linn. Gen. Pl.* PENTANDRIA MONOGYNIA.

*Involucrum umbellulæ. Corollæ tubus cylindricus, ore patulo.*

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

PRIMULA *officinalis* foliis rugosis dentatis subtus hirsutis, scapo multifloro, floribus omnibus nutantibus, corollæ limbo brevi. *Jacq. Misc. Austr. V. 1. p. 159. n. 3. Ait. Kew. V. 1. p. 193.*

PRIMULA foliis rugosis dentatis hirsutis, scapis multifloris, floribus omnibus nutantibus. *Hall. Hist. n. 610.*

PRIMULA *officinalis* foliis rugoso dentatis, limbo corollarum concavo, tubi collo oblongo. *Hoff. Germ. Fl. p. 67.*

PRIMULA *officinalis.* *Scop. Carn. ed. 2. n. 205.*

PRIMULA *veris* foliis rugosis dentatis. *Linn. Sp. Pl. 204. var. a officinalis* limbo corollarum concavo. *Syst. Vegetab. ed. 14. Murr. p. 192. Hudf. Fl. Angl. p. 84. veris.*

VERBASCULUM pratense odoratum. *Baub. Pin. 241.*

PRIMULA *veris* flavo flore elatior. *Clus. Hist. 1. p. 301.*

PRIMULA *veris* odorata flore luteo simplici. *I. B. III. 495.*

PARALYSIS vulgaris pratensis, flore flavo simplici odorato. *Park. Parad. 244.* The common field Cowslip.

PRIMULA *veris* major. Field Cowslips. *Ger. Herb. p. 635. fig. 1. but fig. 2. more resembles the plant; emac. 780. f. 1. Threlk. Raii Syn. 284.* Common Paigles, or Cowslips.

RADIX similis Primulæ acaulis, sed odore fortiori anisi prædita.	ROOT like that of the Primrose, but smelling more powerfully of aniseed.
FOLIA subcordato-ovata, ad basin contracta, tunc decurrentia, structura foliis P. acaulis similia, sed dimidio fere breviora, margine pleniore, plicato-crenulato, validiora, obscurius viridia, basi non attenuata, subtus pilis mollioribus et brevioribus vestita; Petioli glabriores, albid, vix rubentes.	LEAVES somewhat heartshaped-ovate, contracted at the base, then decurrent, in their structure like those of the Primrose, but shorter by nearly one half, fuller at the edge, which is somewhat folded as well as notched, stronger, of a deeper green, not running so taper at the base, covered on the underside with softer and shorter hair; the Leaf-stalks smoother, whitish, with scarcely any red in them.
FLORES parvi, nutantes, subsecundi, lutei, suaviter odorati.	FLOWERS small, hanging down, and generally to one side, yellow, and fragrant.
SCAPI erecti, foliis 3plo aut 4plo longiores, pallidi, villosi, umbelliferi, multiflori.	STALKS upright, 3 or 4 times longer than the leaves, pallid, villous, supporting many flowers in an umbel.
STIPULÆ ad exortum umbellæ, pedunculos cingentes, parvæ, acuminatæ.	STIPULÆ at the base of the umbel, furrounding the peduncles, small and tapering to a point.
PEDUNCULI subunciales, villosi, pallidi.	PEDUNCLES about an inch in length, villous, and pallid.
CALYX: PERIANTHIUM monophyllum, subcampanulatum, ventricosum, laxum, pentagonum, villosum, quinquefidum, lacinis ovatis, acutis, fig. 1.	CALYX: a PERIANTHIUM of one leaf, somewhat bell-shaped, bellying out a little, fitting loosely about the tube of the Corolla, five-cornered, villous, divided into five ovate, pointed segments, fig. 1.
COROLLA monopetala: Tubus uti in Acauli, calyce paulo longius: Limbus vero brevissimus, concavus, flavus, maculis, quinque parvis, distinctis, aurantiacis, ad basin notatus. Faux simplex, absque corona, fig. 2, 3, 4.	COROLLA monopetalous: Tube as in that of the Primrose, a little longer than the calyx: the Limb very short, concave, yellow, marked at the base with five small distinct orange-coloured spots, the Mouth simple, without any crown, fig. 2, 3, 4.
STAMINA et Pistillum uti in Acauli, fig. 5, 6.	STAMINA and Pistillum as in the Primrose, fig. 5, 6.

In speaking of the Primrose, we had occasion to notice the place of growth, and time of flowering of the Cowslip; respecting the latter, we may add, that it is found in moist meadows, as well as upland pastures, and the borders of fields, and sometimes in that abundance as considerably to diminish their produce; hence, with all our partiality for this universal favourite, we hesitate not to pronounce it a plant noxious in agriculture; for, by the spreading of its leaves, it occupies much ground, while its produce is insignificant, and not relished by cattle, *vid. Pan. Suec.*

It retains its character when introduced into the garden, colour excepted, which it has a tendency to change, first to an orange brown, or tawny, and finally to a deep red; Mr. MOONE, who has long cultivated it, amidst a profusion of rare and valuable plants, in his garden, Hyde-Park, assures me, that it has constantly undergone this and no other change with him.

Both GERARD and PARKINSON, figure a variety of it with blossoms perfectly double, and which appears to have been common in our gardens when they wrote, though extremely scarce, if existing now; we possess a hose and hose variety with yellow, and another with deep scarlet blossoms, almost equal in beauty to those of the *Cyrilla pulchella*, and we have had one plant of the common Cowslip, which from the same root produced some flowers on peduncles, and others on a scapus.



The blossoms of the Cowslip, in its wild state, usually hang to one side; this appearance has in part been noticed even by Poets (who, in general, have not sufficiently attended to the works of Nature) thus THOMSON, in his *Seasons*, *Spring*, line 443.

*Then seek the bank where flowering Elders crowd,  
Where scattered wild the Lily of the vale  
Its balmy essence breathes, where COWSLIPS HANG  
THE DEWY HEAD, where purple Violets lurk.*

And MILTON, in his *Lycidas*,

*Bring the rathe primrose that forsaken dies,  
The tufted crow-toe, and pale jessamine,  
The white pink, and the pansie freakt with jet,  
The glowing violet,  
The musk-rose, and the well-attired woodbine,  
WITH COWSLIPS WAN THAT HANG THE PENSIVE HEAD,  
And every flower that sad embroidery wears:  
Bid amaranthus all his beauty shed,  
And daffadillies fill their cups with tears,  
To strew the laureat hearse where Lycid lies.*

We have here quoted more than was barely necessary for our purpose, as it gives us an opportunity of justifying the remark above made; the glaring anachronism, if we may be allowed the expression, in the blowing of such plants, as Poets frequently bring together, has often appeared to us highly reprehensible, especially in those whose grand design has been to represent the appearances, the æconomy, and the wonders of Nature in elegant verse; every lad educated in the country knows that the Violet, the Cowslip, and the Elder, flower at very distant periods; it is therefore extraordinary that THOMSON, above all others, should group such plants, when innumerable others presented themselves: from MILTON such accuracy was not perhaps to be expected; we are not therefore, to be much surprised at his bringing together the *Primrose* and the *Jessamine*, the produce of spring and summer.

These remarks are not offered from a fondness for criticism, or from a desire of detracting from works which have afforded us such exquisite pleasure; nor are these selected as the only authors in which such anachronisms are to be met with, they abound in most poetry, and should, as much as possible, be avoided; for though they may not be noticed by the generality of readers, they must be regarded as blemishes at least by such as are accustomed to view the works of nature with any degree of accuracy.

We notice with more pleasure an instance, the reverse of what we have thought it our duty to censure: SHAKESPEARE has described the blossoms of the Cowslip with a degree of accuracy almost botanical, and has shown how pleasing the most trifling appearances in natural history may be rendered by an imagination like his.

*The Cowslips tall, her pensioners be,  
In their gold coats spots you see,  
Those be rubies, fairy favours,  
In those freckles live their favours,  
I must go seek some dew drops here,  
And hang a pearl in every Cowslip's ear.*

The blossoms of this plant, in point of colour, are pleasingly and truly contrasted by MILTON:

*The YELLOW COWSLIP, and the PALE PRIMROSE.*

LINNÆUS gave to this plant, which he regarded as a mere variety of the *Primrose*, the name of *officinalis*, and which Professor JACQUIN, and many other respectable Botanists, considering it as a species, have continued; it being more frequently used in medicine than any other of the genus.

"Cowslip flowers have a moderately strong, pleasant smell, and a somewhat roughish, bitterish taste, both which they impart, together with a yellow tincture, to watery and to spirituous menstria. Vinous liquors impregnated with their flavour, by maceration, or fermentation, and strong infusions of them drank as tea, are supposed to be mildly corroborant, antispasmodic, and anodyne. An infusion of three pounds of the fresh flowers in five pints of boiling water, is made in the shops into a syrup of a fine yellow colour, and agreeably impregnated with the flavour of the Cowslips." *Lewis M. Med. ed. Aik.*

Many good housewives in the country are in the practice of making a wine with Cowslip flowers, to be used rather as a medicine than an exhilarant; for a general opinion prevails, that they possess a somniferous quality: hence, POPE, in his imitations of *Horace's Satires*, says ludicrously,

*If the nights seem tedious—take a wife,  
Or rather, truly, if your point be rest,  
Lettuce and Cowslip wine—Probatum est.*

In the *Gentleman's Magazine*, Vol. 58. there are some pleasing lines on the Cowslip, by a gentleman of the name of HOMER, whose poetical effusions have often enriched that valuable Miscellany; with an extract from which we shall close our account of this plant.

Cowslip, of all belov'd, of all admir'd,  
Thee let me sing, the homely shepherd's pride;  
Fit emblem of the maid I love, a form  
Gladdening the sight of man; a sweet perfume,  
Sending its balmy fragrance to the soul.  
Daughter of Spring and messenger of May,  
Which shall I first declare, which most extol,  
Thy sovereign beauties, or thy sovereign use?  
With thee the rural dame a draught prepares,  
A nectarous draught, more luscious to my taste  
Than all thy boasted trash, vine-nurturing France.  
Maidens with thee their auburn tresses braid;  
Or, with the daisy and the primrose pale,  
Thy flowers entwining, weave a chaplet fair,  
To grace that pole round which the village train  
Lead on their dance to greet the jocund May;  
Jocund I'll call it, for it lends a smile  
To thee, who never smilest but once a year;  
I name thee not, thou poor unpitied wretch!  
Of all despis'd\*, save him whose liberal heart

♦ Taught him to feel your wrongs, and plead your cause,  
♦ Departed HANWAY—Peace be to his soul!  
♦ Great is that man who quits the path of fame,  
♦ Who, wealth forsaking, stoops his towering mind  
♦ From learning's heights, and stretches out his arm  
♦ To raise from dust the meanest of his kind.  
♦ Now that the Muse to thee her debt has paid,  
♦ Friend of the poor and guardian of the wrong'd,  
♦ Back let her pleas'd return, to view those sports,  
♦ Whose rude simplicity has charms for me  
♦ Beyond the ball or midnight masquerade:  
♦ Oft on that merry morn I've join'd their throng,  
♦ A glad spectator; oft their uncouth dance  
♦ Ey'd most attentive; when, with tawdry shew,  
♦ Ill-sorted ribbons deck'd each maiden's cap,  
♦ And Cowslip-garlands every rustic hat:  
♦ Who that has eyes to see or heart to feel,  
♦ Would change this simple wreath which shepherds wear,  
♦ Ev'n for that golden circle which surrounds  
♦ The temples of a king?





# SAXIFRAGA OPPOSITIFOLIA. PURPLE SAXIFRAGE.

Linn. Gen. Pl. DECANDRIA DIGYNIA.

Cal. 5-partitus. Cor. 5-petala. Caps. 2-rostris, 1-locularis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAXIFRAGA *oppositifolia* foliis caulinis oppositis imbricatis, summis ciliatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 413. Sp. Pl. p. 575. Fl. Suec. ed. 2. p. 142. Hudf. Fl. Angl. ed. 2. p. 180. Purple Saxifrage, Lightfoot, Scot. v. 1. p. 222.

SAXIFRAGA foliis ovatis quadrangulo imbricatis ramis procumbentibus. Linn. Fl. Lapp. 179.

SAXIFRAGA caule repente, foliis quadrifariam imbricatis, cartilagineis ciliatis. Hall. Hist. 980.

SEDUM alpinum ericoides cœruleum. Bauh. Pin. 284. et purpurascens. ejusd.

SAXIFRAGA alpina ericoides flore cœruleo. Tourn. Inst. 253. Raii Syn. p. 353. ed. 3. Mountain Heath-like Sengreen, with large purple Flowers.

RADIX perennis, fibrosa, fusca.

CAULES plurimi, procumbentes, repentes, teretes, inferne nudi, fusci, e petris et rupibus sæpe dependentes funiculorum instar.

FOLIA alterne opposita, circa caules floriferos imbricatim dense collocata, subconnata, obovata, concava, subcarnosa, ad margines ciliata, apicibus depresso callosis albidis, furculorum magis remota.

FLORES in summis caulibus sessiles, solitarii, magni, speciosi, primum læte purpurei, demum cœruleo-fusci.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, ciliatis, coloratis, inæqualibus, caulinis perquam similibus, fig. 1.

COROLLA: PETALA 5, subrotunda, unguibus brevibus instructa, fig. 2.

NECTARIUM: substantia glandulosa ad basin germen nectar copiose fundens.

STAMINA: FILAMENTA 10, erecta, subulata, purpurascens; ANTHERÆ ovales, compressæ, purpureæ; POLLEN aurantiacum, fig. 3.

PISTILLUM: GERMEN inferum; STYLI duo, subulati, erecti, longitudine flaminum, inferne flavescentes, superne rubelli; STIGMATA duo capitata, villosa, rubra, fig. 4.

ROOT perennial, fibrous, of a brown colour.

STALKS numerous, procumbent, creeping, round, below naked, brown, often hanging down like strings from stones and rocks.

LEAVES alternately opposite, those on the flowering stalks closely imbricated, uniting nearly at the base, inversely ovate, concave, somewhat fleshy, fringed on the edges, tops flattened, callous and whitish, those on the young shoots more remotely situated.

FLOWERS on the tops of the stalks, sessile, solitary, large, fleshy, at first of a lively purple colour, finally blueish.

CALYX: a PERIANTHIUM of five leaves, which are ovate, edged with hairs, coloured, unequal, and very like those of the stalk, fig. 1.

COROLLA: 5 roundish PETALS, furnished with short claws, fig. 2.

NECTARY: a glandular substance at the base of the germen, affording much honey.

STAMINA: 10 Filaments, upright, tapering, purplish; ANTHERÆ oval, flattened, purple; POLLEN orange-coloured, fig. 3.

PISTILLUM: GERMEN beneath; STYLES two, tapering, upright, the length of the flamina, below yellowish, above bright red; STIGMATA two little villous red heads, fig. 4.

This species of Saxifrage, the only British one with purple flowers, is found plentifully on the summits of our highest mountains in England, Scotland, and Wales; we have observed it both on Ingleborough and Pennigent in Yorkshire, Mr. LIGHTFOOT on most of the Scotch mountains, and Mr. LHWYD abundantly on Snowdon.

It flowers much earlier than any of the genus, empurpling and enlivening the barren rocks (from which in some situations it hangs pendent to a great length) in April and May; in our gardens near London it blows usually in February and March; when the blossoms first expand they are of a bright purple colour, as they go off they incline to blue; this variation in their colour has induced some Botanists to make two species of it. It is said to vary with white flowers; we do not know that any such variety has been seen in this country.

The plant itself is very liable to vary from situation; when it grows exposed, the whole plant assumes a more compact appearance, the stalks are shorter, the leaves more closely imbricated, the flowers more numerous; this is its natural, and most beautiful state; in shady and more sheltered situations, the stalks shoot to a greater length, the leaves are placed at greater intervals, assume a greener hue, and resemble somewhat those of wild Thyme, in such situations few or no flowers are produced.

No mention is made of this plant by GERARD, or PARKINSON; in their time botanical researches had not been pushed to the extent they have since been; RICHARDSON and LHWYD, in the time of RAY, were active in exploring the mountains of Yorkshire and Wales, it was reserved for Mr. LIGHTFOOT to penetrate further North, to visit the untrodden heights of Caledonia, and gather it.

'Tis only within a few years that this beautiful native\* has been cultivated as an ornamental plant; small pots of it are now regularly brought to Covent-Garden-Market, the latter end of February and beginning of March, where they are sold from one to two shillings each.

Though it be a hardy plant, and of ready growth, as most of the Saxifrages are, yet it will not flower in perfection, as we have found by long experience, but under certain management, which is this, about the latter end of March divide a plant, which has filled a pot the preceding year, into many small pieces, taking care that each has a few fibres to it, plant about six of these in the middle of a small pot, filled with a composition of loam and rotten leaves, or bog earth, in equal parts, water them and set them by in a shady place for about a week, then plunge them in an open border, exposed not more than one half of the day to the sun; in dry weather be particularly careful to water them once a day, they require no other attention, but this they will not dispense with; the ensuing spring, each pot will be covered with a profusion of bloom; to continue them in perfection they must be treated thus yearly.

Mr. MILLER recommends a shady situation for this plant, which we have ever found injurious, the shelter of a green-house quickly draws it up and spoils it; it is indeed one of those plants which revolts at all tender treatment.

One of its leaves when magnified becomes a curious object, bearing a great resemblance to those of some of the Fig-Marigolds.

\* Pulchræ plantæ elegantiam difficile est aut verbis exprimere aut penicillo. Hall. Hist.





*Lycopodium oppositifolium*











# OPHRYS FUCIFERA. GREEN-WINGED OPHRYS.

OPHRYS. *Linn. Gen. Pl.* GYNANDRIA DIANDRIA.

*Nectarium subtus subcarinatum.*

*Raii Syn. Gen.* 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

OPHRYS *aranifera* bulbo subrotundo, scapo folioso, nectarii labio subrotundo integro emarginato convexo. *Huds. Fl. Angl. ed. 2. p. 392.*

OPHRYS *infestifera* var. 3 *Linn. Sp. Pl. ed. 3. p. 1343.*

ORCHIS fucum referens colore rubiginoso. *Baub. Pin. p. 83. Vail. Par. p. 146. t. 31. f. 15. 16. Tourn. Inst. t. 247. CC.*

ORCHIS five Testiculus sphegodes hirsuto flore. *J. B. II. 767. Raii Syn. ed. 3. p. 380. Humble Bee Satyrion with green wings.*

TESTICULUS vulpinus 2 sphegodes. *Humble Bee Orchis. Ger. emac. p. 212. f. 3.*

ORCHIS Sphegodes five fucum referens. The greater Drone Bee flower. *Park. Tb. p. 1350. as to the fig. but not the descr.*

RADIX bulbi duo, subrotundi.

ROOT two roundish bulbs.

CAULIS semipedalis, humilior elatiorve pro ratione loci, teres, lævis, inferne foliis vaginantibus vestitus.

STALK six inches high, shorter or taller according to its place of growth, round, smooth, covered below with leaves embracing it.

FOLIA radicalia sesunciam longa, unciam fere lata, ovato-lanceolata, obtusiuscula, lineata, lævia, supra terram expansa, caulina pauca angustiora et acutiora.

LEAVES next the root an inch and a half long, almost an inch broad, ovato-lanceolate, somewhat blunt, marked with impressed lines, smooth, expanding on the ground, those of the stalk few, narrower, and more pointed.

FLORES 3—6 in spica rara.

FLOWERS from 3 to 6, in a thin spike.

COROLLA: PETALA 5, pallide viridia, tria exteriora majora, longitudine labelli, horum duo opposita, ovato-lanceolata, obtusa, subincurvata, suprema angustata marginibus revolutis; duo interiora breviora, lanceolata, erecta, aut paululum recurvantia, apice plerumque subtruncata: *fig. 1, Labellum* suborbiculatum, inferne concavum, superne convexum, lateribus deflexis, primo purpureo-fusco vivide coloratum, mox flavescens, in medio macula literam Hebraicam  $\Pi$  quodammodo referente sæpius notatum, in diversis floribus diversa, ut in icone exprimitur, villis densis obsitum, præsertim ad latera, ubi plerumque prominet, maculis exceptis, quæ nudæ nitidæquæ sunt.

COROLLA: 5 PETALS of a pale-green colour, the three outermost largest and the length of the labellum, of these the two opposite ones are ovato-lanceolate, obtuse, bent somewhat inwardly, the uppermost one narrowed, with the edges rolled back, the two innermost shorter, lanceolate, upright or bent a little back, generally somewhat truncated at the tip: *fig. 1, the Labellum* nearly orbicular, below concave, above convex, the sides bent down, at first of a bright purple brown colour, soon changing to a yellowish hue, marked in the middle with a spot considerably resembling the Hebrew letter  $\Pi$ , differing however in its form in different flowers, as is expressed in the plate, covered thickly with short hairs, especially at the sides, where it for the most part projects, the spots excepted, which are smooth and glossy.

STAMINA: FILAMENTA duo, albidæ; ANTHERÆ clavatæ, *fig. 2*, flavescens; thecæ in quibus continentur, *fig. 3*, per totam longitudinem apertæ, marginibus membranaceis, superne subdiaphanis, ubi color antherarum transparet.

STAMINA: two FILAMENTS of a whitish colour; ANTHERÆ club-shaped, *fig. 2*, yellowish, the cases in which they are contained, *fig. 3*, open through their whole length, their edges membranaceous, and near the top, so transparent that the colour of the antheræ is seen through them.

PISTILLUM: STIGMA concavum, purpurascens, utrinque glandula virescente notatum, *fig. 4.*

PISTILLUM: STIGMA concave, purplish, marked on each side with a greenish gland, *fig. 4.*

The *Ophrys arachnites*, *Linn. Sp. Pl. ed. 3.* a variety of his *infestifera*, comprehends to our certain knowledge three perfectly distinct species, viz.

1. *Orchis araneam* referens, *Baub. Pin.*
2. *Orchis fucum* referens colore rubiginoso, *Baub. Pin.*
3. *Orchis fucum* referens major foliolis superioribus candidis et purpurascens. *Baub. Pin.*

Of these plants LINNÆUS appears to have had a very imperfect knowledge; and HALLER, who particularly directed his attention to the Orchideæ, seems either not to have known, or to have confounded them; the same may be said of MURRAY and GMELIN, in neither of whose editions of LINNÆUS is our *fucifera* or *apifera* enumerated: VAILLANT in his *Botan. Paris.* gives a very just representation of the flowers of the three species, all of which are natives of France, and by those representations may be said to have first clearly ascertained them; for the figures of the older authors want the necessary accuracy. Of the *arachnites*, an excellent print, for the time in which it was executed, is given in the *Hortus Eystettensis*, a library of itself, and to which one cannot but regret that LINNÆUS has so few references; an accurate figure and description of it is also given by HALLER, in his *Hist. Stirp. Helv.* Hitherto, this plant, common to Switzerland, and many parts of Europe, has not been discovered wild in this country; a plant of it in full bloom, and in great perfection



perfection at this present time, June 1. 1794, is the pride of my garden at Brompton: this must be regarded as the true *arachnites* of LINNÆUS, since it is indisputably the same as the one figured by VAILLANT, to which he refers; and the *Orchis araneum referens* of C. BAUHINE, to which he also refers; indeed as such it is admitted by Professor MURRAY, in the 14th edition of the *Systema Vegetab.* with a suitable specific description according with that of HALLER. It is evident that Mr. HUDSON, when he gave to the species here figured, the name of *arachnites* (a term synonymous with that of *arachnites*) and which he was the first to describe specifically in the Linnean style (though RAY in his *Synopsis* had pointed out its striking character) regarded the *arachnites* of LINNÆUS and the  $\delta$  variety of it as the same species, from his referring to two different figures in VAILLANT for his plant; this he ought not to have done, but following LINNÆUS's reference to BAUHINE, have selected the term *fuscifera*, which we have been under the necessity of doing, rather than be subject to the confusion arising from having two different plants called by synonymous terms.

Our plant is the *Ophrys*, commonly known in this country by the name of the Bee Orchis with green wings, the petals being altogether of an herbaceous colour; while in the *apifera*, already figured, three of them are pale purple; as they differ in colour, so do they also very materially in shape, and as these differences are invariable, any other mark of discrimination is almost superfluous, yet we may observe, that they flower at two very different periods, the *fuscifera* has sometimes been found in mild seasons in bloom as early as March, in late ones in May, while the *apifera* rarely flowers till the end of June or beginning of July.

Some authors have fancied that the flowers of this plant bore a resemblance to a bee or a spider, it must be confessed that much of this similitude depends on the imagination; others have discovered a more real likeness to a small bird in each flower: this appearance will be obvious to our readers on inspecting the plate. When a trifling likeness of this sort has occurred in plants, or animals, the old authors generally improved on it; even TOURNEFORT's figure of this part of our plant is somewhat *outré* in this respect.

In this species the nectary, which at first is of a bright and very rich brown colour, soon changes to a faded yellow green; when the flowering is over, the petals incline forward, and close over the nectary.

Though the *Ophr. apifera* is found abundantly near London, this species has not yet been observed equally near; we have seen it growing, though very sparingly, in the chalk pits near Leatherhead; in the neighbourhood of Bury, in Suffolk; also, about Cambridge it is found some years in great abundance: from the former place we have been favoured with roots of it by Sir TH. G. CULLUM, Bart. and from the latter by Professor MARTYN, and the Rev. J. DAVIES, of Trinity-College: it has been observed also in various other parts of the kingdom.

Such as delight in the culture of flowers will be pleased to find, that with a little attention and management they may succeed in making this plant grow and flower with them more freely than many of the tribe; we recommend to them the following method, which we have found successful: take up the roots carefully when in flower, bare them no more than is necessary to remove every other kind of root about them, fill a large-sized garden pot with three parts choice loam moderately stiff, and one part chalk mixed well together and passed through a sieve somewhat finer than a common cinder sieve, in this mixture place your roots at about the depth of two inches, and three inches apart, water them occasionally during summer if the weather prove dry, at the approach of winter place your pot in a frame under a glass to keep them from wet and frost, which combined destroy the beauty of the foliage, if not the plant itself; in the autumn, before any of the others make their appearance, you will perceive the leaves of this species emerge, much sooner indeed than might be expected.





# ORCHIS FUSCA.

# GREAT ORCHIS.

ORCHIS. *Linn. Gen. Pl.* GYNANDRIA DIANDRIA.

NECTARIUM cornu referens pone florem. *Cor. ringens.*

*Raii Syn. Gen.* 26. HERBÆ BULBOSIS AFFINES.

ORCHIS *fusca* bulbis indivisis, nectarii labio quadrifido: laciniis oblongis, cornu brevi, petalis confluentibus. *Linn. Syst. Vegetab. ed. 14.* *Murr.-p.* 809. *Jacq. Fl. Austr. v. 4. p. 4. t. 307.*

ORCHIS *militaris* *Linn. Sp. Pl. ed. 3. p. 1334. var. β.*

ORCHIS radicibus subrotundis; spica longa; labello quadrifido, brachiolis angustis, crurculis latis ferratis. *Hall. Hist. Helv. n. 1276. t. 31.*

ORCHIS magna, latis foliis, galea fusca seu nigricante. *J. B. II. p. 759.* *Raii Syn. ed. 3. p. 378. t. 19. f. 2.*

ORCHIS *militaris* major. *Tourn. Inst. R. Herb. 432.* *Vaill. par. t. 31. f. 27, 28.*

RADIX: Bulbi duo, oblongi, magni.

FOLIA caulina inferiora ovato-oblonga, obtusiuscula, a duabus ad tres uncias lata, glabra, lineata, in quibusdam speciminibus transverse rugosa, late virentia, superiora angustiora, caulem obvolventia.

CAULIS pedalis, ad bipedalem, et ultra, erectus, teres, laevis, inferne viridis, superne purpureus.

FLORES numerosi, in spica longa, ovato-cylindracea, imbricatim dense collocati.

BRACTEÆ perbreves, vix longitudine calcaris nectarii, ovato-acuminatae.

COROLLA: PETALA 5 in galeam conniventia, tria exteriora ovata, acuta, obsolete 3-nervia, concava, punctis exfusco-purpureis confluentibus notata, duo interiora multo angustiora, oblonga, versus apicem paululum dilatata, pallidiora, punctis purpureis etiam notata, *fig. 1.*

NECTARIUM: Calcar obtusum, subcompressum, obsolete bifidum, medium germinis vix attingens, albescens: Labellum amplum, latum, punctis purpureis prominulis exasperatum, quæ uti Hallerus recte monet brevium pilorum fasciculi sunt, in floribus nuper apertis saturatius purpureum, præsertim ad oras, quadrifidum, laciniæ superiores sublineares, divergentes, inferiores triplo latiores, divergentes, apicibus subtruncatis, eroso-denticulatis, mucrone plerumque intermedio.

STAMINA: Thecæ staminum purpureæ, *fig. 2.* FILAMENTA flavescencia, ANTHERÆ subclavatae, albidæ, *fig. 3.*

GERMEN teretiusculum, tortuosum, glabrum, ex fusco viridique varium.

ROOT two, oblong, large Bulbs.

LEAVES: those on the lower part of the stalk ovato-oblong, a little blunt, from two to three inches broad, glossy, scored, in some specimens transversely wrinkled, of a lively green colour, the uppermost leaves narrower and surrounding the stalk.

STALK a foot, two feet, and sometimes more in height, upright, round, smooth, green below, purple above.

FLOWERS numerous, placed close together, one over the other, in a long spike, betwixt ovate and cylindrical.

BRACTEÆ very short, scarcely the length of the spur of the nectary, ovato-acuminate.

COROLLA: 5 PETALS closing and forming a helmet, the three outermost ovate, pointed, faintly three ribb'd, concave, marked with spots of a brownish purple colour running together, the two innermost ones much narrowest, oblong, a little dilated towards the top, paler, marked also with purple spots, *fig. 1.*

NECTARY: the Spur blunt, somewhat flattened, slightly bifid, scarcely reaching to the middle of the germen: Labellum large, broad, rough, with prominent purple dots, which, as Haller justly observes, are little tufts of short hairs, in flowers lately opened of a deeper purple colour, especially on the edges, divided into four segments, the two uppermost of which are nearly linear and diverging, the two lowermost thrice as broad, diverging, the tips somewhat truncated, irregularly and finely notched, with a short point for the most part between the two.

STAMINA: Cases of the stamina purple, *fig. 2.* FILAMENTS yellowish, ANTHERÆ somewhat club-shaped, whitish, *fig. 3.*

GERMEN roundish, twisted, smooth, variegated with green and brown.

On chalky banks abounding with Milkwort and Juniper, near woods, and in the woods themselves, in many parts of Kent, especially about Rochester, we have had no small pleasure in observing this plant grow in great abundance.

In exposed aspects its usual height is about nine inches, in woods and copses where it is more sheltered, and where the soil is richer, it will acquire the height of two feet or more; such specimens in beauty and grandeur far surpass every British Orchis; its flowers vary exceedingly in colour, some being of a light, others of a deep purple colour, now and then one wholly white occurs; the lip of the nectary, an interesting object for the microscope, varies also in breadth; both root and flowers send forth a strong smell, somewhat like but not so pleasant as Anthoxanthum.

It flowers early in May, and in forward seasons at the close of April, at the same time as the early spotted Orchis, Cowslip, and Harebell.

Our plant is undoubtedly the *Orchis fusca* of JACQUIN, whose name we have adopted, as also the one we have referred to in HALLER, by whom it is represented in a very luxuriant state; LINNÆUS regards it as a variety of his *militaris*; Prof. MURRAY, in the 14th ed. of his *Syst. Vegetab.* follows RAY, HALLER, JACQUIN, VAILLANT, and others, in making it a species.

The same culture which we have recommended for the *Ophrys fucifera* is applicable to this species.





*Orchis fusca*









*Veronica trophyllus*

A. L. DuRoi del. J. B. de la Haye sculp.



# VERONICA TRIPHYLLOS. TRIFID SPEEDWELL.

VERONICA. Linn. Gen. Pl. DIANDRIA MONOGYNIA.

Cor. Limbo 4-partito, lamina infima angustiore. Cal. bifidus.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *triphyllus* floribus solitariis, foliis digitato partitis, caliculis calyce longioribus. *Syst. Vegetab. ed. 14. Murr. p. 60. Scop. Fl. Germ. ed. 2. p. 25. Linn. Sp. Pl. ed. 2. p. 7. triphylla. Flor. Suec. ed. 2. p. 7.*

VERONICA foliis ovatis, tripartitis, et quinquepartitis, floribus longe petiolatis. *Hall. Hist. 551.*

VERONICA flosculis singularibus, foliis laciniatis, erecta. *Raii Syn. ed. 3. p. 280.* Upright Speedwell with divided leaves.

ALSINE *triphyllus* cærulea. *Baub. Pin. 250.*

ALSINE parva recta, folio Alfinæ hederaceæ Rutæ modo diviso. *Lob. icon. 464.*

ALSINE recta. Right Chickweede. *Ger. Herb. t. 189. emac. p. 612. f. 5.*

ALSINE recta triphyllus, five laciniata. *Park. Th. p. 760.* Upright Chickweede with jagged leaves.

ALSINE recta flore cæruleo. Upright blew Chickweede. *Park. Th. p. 1260. f. 6.*

ALSINE folio profunde secto, flore purpureo feu violaceo. *I. B. 3. 367.*

VERONICA folio Rutæ. *Riv. t. 96.*

RADIX annua, fibrosa.

CAULES plures, subpalmares, erectiusculi, teretes, superne viscid, pallide virides, aut subrubentes, pendente florescentia subnutantes.

FOLIA patentia, remotiuscula, alterna et opposita, crassiuscula, utrinque pilosa, subtus sæpe rubentia, inferiora cordato-ovata, brevissime petiolata, superiora sessilia, digitato-quinquepartita, et tripartita, laciniis cuneiformibus, intermedia maxima.

FLORES axillares, solitarii, faturate et splendide cærulei; Pedunculi foliis breviores.

CALYX: PERIANTHIUM monophyllum, persistens, quadripartitum, laciniis obovatis, foliis supremis plantæ similibus, fig. 1.

COROLLA monopetala, rotata, calyce minor; Tubus brevissimus, albus; Limbus quadripartitus, planus, laciniis ovatis, infima angustiore, huic opposita latiore, fig. 2.

STAMINA: FILAMENTA duo, inferne angustiora, alba; ANTHERÆ oblongæ, cæruleæ, fig. 3.

PISTILLUM: GERMEN compressum; STYLUS filiformis, longitudine staminum; STIGMA simplex, albidum, fig. 4.

PERICARPIUM: CAPSULA magna, obcordata.

SEMINA plurima, e fusco nigricantia, hinc convexa, gibba, rugosa, illinc concava.

ROOT annual, fibrous.

STALKS numerous, about a hand's breadth high, nearly upright, round, on the upper part viscid, of a pale green or reddish colour, drooping a little during the flowering period.

LEAVES spreading, rather remote, alternate and opposite, thickish, hairy on both sides, often reddish on the under side, the lowermost heart-shaped ovate, standing on very short footstalks, the upper ones sessile, fingered, or divided deeply into five and three parts, the segments wedge-shaped, the middle one very large.

FLOWERS placed singly in the bosoms of the leaves, of a deep and bright blue colour; Flower-stalks shorter than the leaves.

CALYX: a PERIANTHIUM of one leaf, continuing, deeply divided into four segments, which are obovate, and like the uppermost leaves of the plant, fig. 1.

COROLLA monopetalous, wheel-shaped, smaller than the calyx; Tube very short and white; Limb deeply divided into four segments, flat, segments ovate, lowermost one narrower, uppermost one broader than the rest, fig. 2.

STAMINA: two FILAMENTS, narrowest below, white; ANTHERÆ oblong, blue, fig. 3.

PISTILLUM: GERMEN flattened; STYLE filiform, the length of the stamina; STIGMA simple, whitish, fig. 4.

SEED-VESSEL: a large CAPSULE, inversely heart-shaped.

SEEDS numerous, of a blackish brown colour, convex, gibbous, and wrinkled on one side, hollow on the other.

The *Veronica triphyllus*, a plant common to most parts of Europe, and chiefly found in corn-fields, where the soil is light, is of very partial growth in this country, and found principally in the counties of Norfolk\* and Suffolk; we have received specimens of it from Sir THOMAS FRANKLAND, gathered by him in Yorkshire.

It flowers very early in the spring, in March, and April, and ripens its seeds in June, from these spontaneously scattered, young plants come up readily in autumn; in favourable soils this species, like the *Veronica* and *agrestis*, seems much disposed to become a weed; but, like them, is too trifling to be injurious.

C. BAUHINE mentions two varieties of this *Veronica*, one with larger and thicker leaves, the other with smaller ones; these scarcely deserve the name of varieties: HALLER observes, that the former is the common height of the plant, we have seen it much taller; the summits of the flowering branches of the latter are somewhat downwards, a peculiarity of the plant which we have not found noticed by authors.

This species is too distinct to be mistaken for any other English one, its divided leaves, the deep rich blue colour of its flowers, and the largeness of its seed-vessels obviously distinguish it.

*Triphyllus*, a name given to it by some of the old Botanists, is not always applicable, the leaves in young plants particularly, being often divided into more than three segments.

\* At Rowton in Norfolk, betwixt the town and the highway, twelve miles before you come to Norwich; at Mewel in Suffolk, between the two windmills and the warren-lodge in the gravel-pits, two miles beyond Barton Mills, on the ridge of the hill where a small stream crosses the road to Lynn; and in the grass thereabout, plentifully. TH. WILLIS. *Ray's Syn. ed. 3. p. 280.*







# MELITTIS MELISSOPHYLLUM. BASTARD-BALM.

MELITTIS. Linn. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.

*Calyx* tubo corollæ amplior. *Corollæ* labium superius planum; labium inferius crenatum. *Antheræ* cruciatæ.

*Raii Syn. Gen.* 24. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

MELITTIS *Melissophyllum*. Linn. Sp. Pl. ed. 3. p. 832. Syst. Vegetab. ed. 14. Murr. p. 544. Scop. Carn. ed. 2. p. 421. Hudf. Fl. Angl. ed. 2. p. 264. Common Bastard-Balm. Jacq. Fl. Austr. v. 1. p. 18. tab. 26.

MELISSOPHYLLUM. Hall. Hist. n. 244.

LAMIUM montanum *Melissæ* folio. Baub. Pin. p. 231.

MELISSA Fuchii. Hort. Eyst. vern. Ord. 6. fol. 7. f. 3. flore albo et flore purpureo. Bastard Baume with white and with purple flowers. Ger. emac. p. 690. f. 3. 3. Baulm-leav'd Archangel, Bastard-Baulm. Raii Syn. ed. 3. p. 242.

MELISSOPHYLLUM Fuchii. Unpleasant Baulme. Park. Tb. p. 41. f. 4.

LAMIUM pannonicum verficolore flore. Clus. rar. pl. p. xxxvij.

RADIX perennis, fibrosa.

CAULES sesquipedales et ultra, erecti, tetragoni, hirsuti, ad basin ramis paucis instructi.

FOLIA opposita, petiolata, ovata, subacuta, inæqualiter et obtusiuscule serrata, villosiuscula, rugosa, petioli canaliculati, hirsuti, basi connati.

FLORES magni, speciosi, odorati, pedunculati, verticillati, subssecundi, verticillis dimidiatis, subsexfloris.

PEDUNCULI teretes, hirsutuli, longitudine petiorum.

CALYX: PERIANTHIUM monophyllum, inflato-ventricosum, bilabiatum, venosum, glabrum, venis hirsutulis, divisuris labiorum perquam inconstantibus, fig. 1.

COROLLA monopetala, ringens, villosula, alba; *Tubus* calyce longior, multoque angustior, *Labium* superius erectum, subrotundum, integrum, inferius trifidum, laciniis obtusis, intermedia majori, subrotundo, purpureo, margine crenulato, albo, fig. 2.

STAMINA: FILAMENTA 4, alba, villosa, corolla breviora; ANTHERÆ flavescentes, fig. 3.

PISTILLUM: GERMEN obtusum, quadrifidum, villosum; STYLUS filiformis, longitudine flaminum; STIGMA, bifidum, acutum, fig. 4.

SEMINA 4 in fundo calycis, nigricantia, fig. 5.

ROOT perennial, fibrous.

STALKS a foot and a half high, or more, upright, square, strongly hair'd, furnished at the base with a few branches.

LEAVES opposite, standing on footstalks, ovate, somewhat pointed, unevenly and bluntly serrated, slightly villous, wrinkled, footstalks concave above, hirsute, united at the base.

FLOWERS large, shewy, odoriferous, standing on footstalks, growing chiefly to one side, in half whorls about six flowers together.

FLOWER-STALKS round, somewhat hairy, the length of the leaf-stalks.

CALYX: a PERIANTHIUM of one leaf, somewhat inflated and bellying out, two-lip'd, veiny, smooth, except the veins which are somewhat hairy, the divisions of the lips altogether inconstant, fig. 1.

COROLLA monopetalous, ringent, slightly villous, white; *Tube* longer than the calyx and much narrower, upper lip erect, roundish, entire, lower lip trifid, segments obtuse, the middle one largest, purple, the margin finely notched, and white, fig. 2.

STAMINA: four FILAMENTS, white, villous, shorter than the corolla; ANTHERÆ yellowish, fig. 3.

PISTILLUM: GERMEN obtuse, quadrifid, villous; STYLE filiform, the length of the stamina; STIGMA bifid and pointed, fig. 4.

SEEDS four, in the bottom of the calyx, of a blackish colour, fig. 5.

The *Melittis Melissophyllum*, a plant common to many parts of Europe, has hitherto been discovered in the more western parts of this kingdom only, particularly Pembrokeshire, Devonshire, and Hampshire, in some of which counties it grows in great abundance; Dr. WAVEIL has observed it in various places about Barnstable: in his company, I gathered it at the foot of a hedge by the road side near the hospitable mansion of — CHICHESTER, Esq. of Hall, about two miles from that town. It is most commonly found in woods, or situations somewhat shady.

It was not probable that a plant of such singular beauty should be suffered to blossom in its native woods, unseen; accordingly, we now find it in most of our nurseries, and gardens of the curious, yet not so generally as it merits. Most authors describe the *Melittis* as having an unpleasant smell; the fresh herb when bruised partakes of the agreeable scent of Balm, and the disagreeable smell of stinking Horehound; dried, it loses the unpleasant part, and becomes delightfully fragrant; the flowers when they first open have appeared to us to be sweetly odoriferous, we say appeared to us, because as they are not described as such, others may not have found them so, for we have observed an unaccountable variation in the perceptibility of smells in different persons, we know several who can discover no scent in the flowers of the Persian Iris; the general acuteness of whose olfactories cannot be called in question.

CLUSIUS observed this plant in its wild state with white flowers; he mentions also a variety of it in all respects smaller; whether this be a variety differing as we have observed the *Melissa grandiflora* to do, or whether it be a species, we must leave to the determination of others: in the Apothecaries garden at Chelsea, we have seen a *Melittis* answering to CLUSIUS's description, the flowers of which were not more than half the size of the Devonshire one, of a pale red colour, corresponding more with JACQUIN's figure, the blossoms of which are not so large as those of our plant.

From a gland which encircles the base of the germen there is much honey secreted; hence the plant accords with its name *Melittis*, hence it becomes the resort of bees.

The cruciform appearance of the *Antheræ* ought not to form any part of the generic character, being, as Professor JACQUIN has observed, common to many of the didynamous plants.

There is no difficulty attends the cultivation of this charming hardy perennial; planted in almost any soil, provided it be moderately moist and somewhat shady, it will flourish; it increases by roots and seeds, and may be readily propagated by parting the one or sowing the other in autumn.



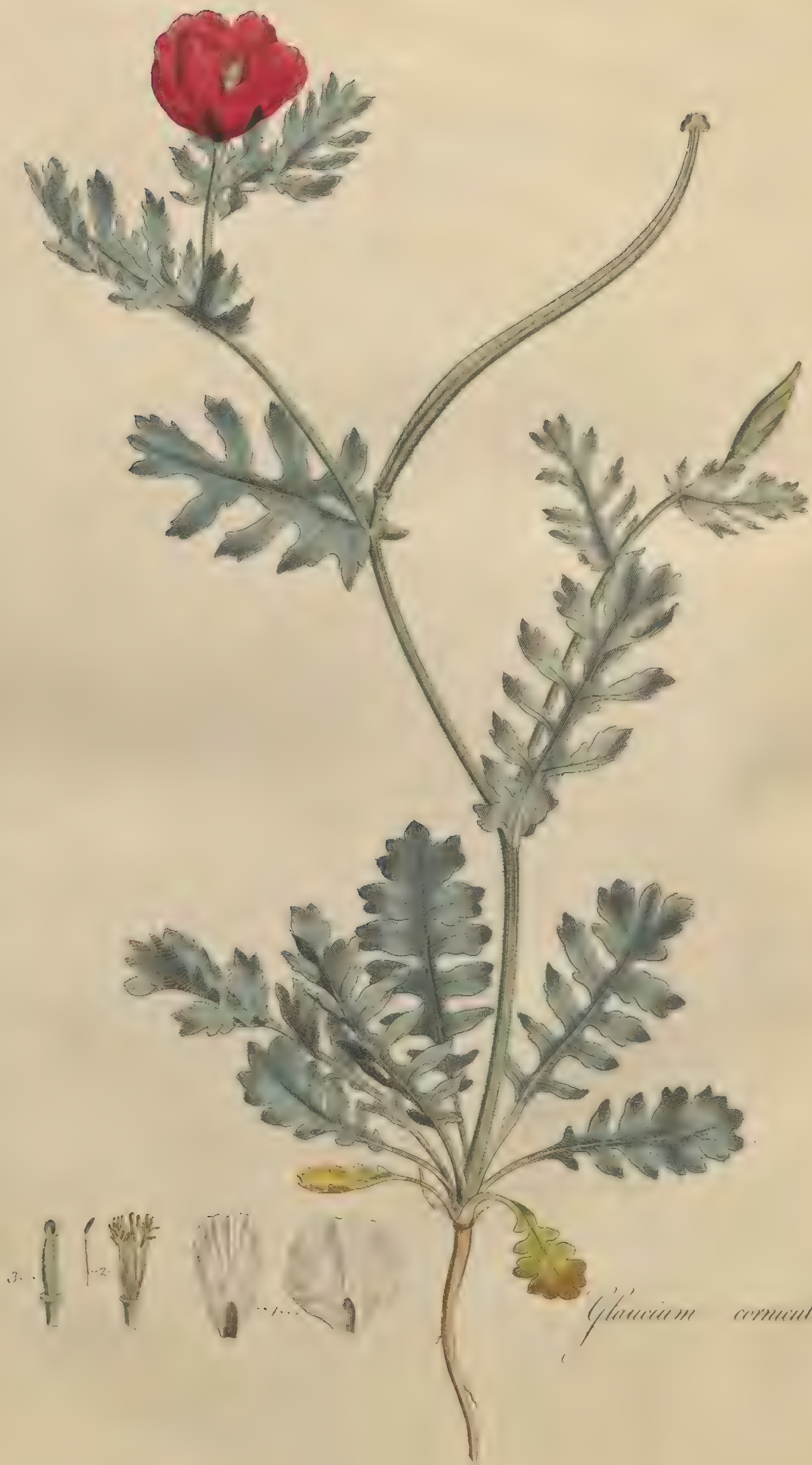


*Melittis*  
*Melisophyllum*









*Glaucium corniculatum*



# GLAUCIUM CORNICULATUM. RED HORNED-POPPY.

CHELIDONIUM. *Linn. Gen. Pl.* POLYANDRIA MONOGYNIA.

*Cor.* 4-petala. *Cal.* 2-phyllus. *Siliqua* 1-locularis, linearis.

*Raii Syn. Gen.* 22. *Herbæ vasculiferae flore tetrapetalo anomalæ.*

CHELIDONIUM *corniculatum* pedunculis unifloris, foliis sessilibus pinnatifidis, caule hispido, *Linn. Syst. Veg. ed. 14. Murr. p. 489. Sp. Pl. ed. 3. p. 724. Hudf. Fl. Angl. ed. 2. p. 229.*

GLAUCIUM hirsutum flore phœniceo. *Tourn. Inst.* 254.

PAPAVER corniculatum phœniceum hirsutum. *Bauh. Pin.* 171.

PAPAVER corniculatum rubrum. *Dod. Pempt.* 449.

PAPAVER cornutum phœniceo flore. *Clus. Hist.* 2. p. xci.

PAPAVER cornutum flore rubro. *Ger. Herb. p. 294. f. 2. emac. 367. f. 2. Red-horned Poppey.* also *fig. 3, in Ger. Herb.*

RADIX annua, fusiformis, parum fibrosa, flavescens.	ROOT annual, spindle-shaped, slightly fibrous, yellowish.
CAULIS pedalis ad sesquipedalem, erectiusculus, teres, leviter sulcatus, pilis longis distantibus hispidus, pallide virens, ramosus, rami cauli similes, divaricato-patuli.	STALK a foot or a foot and a half in height, somewhat upright, round, slightly grooved, covered with long distant hairs, of a pale green colour, branched, branches like the stalk, spreading widely.
FOLIA candicantia, radicalia in orbem posita, erectiuscula, petiolata, cætera sessilia, semiplexantia, alterna, remota, sinuato-pinnatifida, utrinque pilis uti caulis hispida; lacinae in radicalibus alternæ; extimæ confluentes, in superioribus caulinis oppositæ, dentatæ, dentibus obtusiusculis, mucronatis, nunc remotis, nunc approximatis, ad apices plerumque ternis.	LEAVES whitish, those next the root placed circularly, somewhat upright, standing on foot-stalks, the rest sessile, half embracing the stalk, alternate, remote, sinuated and pinnatifid, covered on both sides with hairs as on the stalk, the segments in the root-leaves alternate, the outermost ones confluent, in the upper stalk leaves opposite, toothed, teeth somewhat obtuse, terminating in a short point, sometimes remote, sometimes near each other, the tops having usually three.
FLORES solitarii, magni, rubro-crocei, erecti, caduci.	FLOWERS growing singly, large, bright red, inclining to orange, upright, quickly falling.
PEDUNCULI terminales, foliis oppositi, breves, ad apices dilatati, cauli similes.	FLOWER-STALKS terminal, opposite the leaves, short, dilated at top, like the stalk.
CALYX: PERIANTHIUM pedunculo brevius, diphyllum, hirsutissimum, foliolis ovato-oblongis, concavis, caducis.	CALYX: a PERIANTHIUM shorter than the flower-stalk, two leaved, very hairy, leaves ovato-oblong, quickly falling.
COROLLA: PETALA 4, subrotunda, inæqualia, basi angustiora, plana, margine crosso-crenata, ad basin macula oblonga nigra notata, <i>fig. 1.</i>	COROLLA: 4 PETALS, roundish, unequal in size, narrower at the base, the edge notched or knawed, the base marked with an oblong, black spot, <i>fig. 1.</i>
STAMINA: FILAMENTA 15 circiter, planiuscula, corolla breviora: ANTHERÆ oblongæ, obtusæ, compressæ, erectæ, didymæ, pallide aurantiacæ, <i>fig. 2.</i>	STAMINA: about fifteen FILAMENTS, a little flattened, shorter than the corolla; ANTHERÆ oblong, obtuse, flattened, erect, double, of a pale orange colour, <i>fig. 2.</i>
PISTILLUM: GERMEN cylindraceum, sericeo-tomentosum, longitudine flaminum; STYLUS nullus; STIGMA capitatum, crassum, bifidum, viride, <i>fig. 3.</i>	PISTILLUM: GERMEN cylindrical, covered with a silky down, length of the stamina; STYLE none; STIGMA forming a head, thick, bifid, and green, <i>fig. 3.</i>
PERICARPIUM: SILIQUA cylindracea, stricta, subcompressa, uncias circiter 8 longa, pilis appressis scabriuscula, stigmate bilabiato terminata, bivalvis.	SEED-VESSEL: a cylindrical Pod, straight, somewhat flattened, about 8 inches long, roughish, with hairs pressed to it, terminated by the two-lip'd stigma, having two valves.
SEMINA plurima, nigricantia, subreniformia, pulchre reticulata, dissepimento spongioso nidulantia.	SEEDS numerous, blackish, somewhat kidney-shaped, beautifully reticulated, nestling in the spongy receptacle.

Most of the old Botanists regarded the *Horned-Poppy* as a *Papaver*: *TOURNEFORT* made it a distinct genus by the name of *Glaucium*: *LINNÆUS* united it with the *Chelidonium*, with which, in our humble opinion, it has less affinity than with *Papaver*; why he should not have followed *TOURNEFORT* in this instance, we see no good reason; surely the structure of the seed-vessel justifies the great founder of genera, in separating it from the other two; so have thought the most celebrated systematic Botanists of modern times; in particular, *HALLER*, *ADANSON*, *JUSSIEU*, and *SCOPOLI*; the latter observes, that if the fruit is not to be attended to in forming the generic character, neither should the *Poppy* be separated from the *Celandine*.

This ornamental species, distinguished by the colour of its flowers, its general roughness, and place of growth, and since *RAY*'s time discovered by Mr. *STILLINGFLEET* in the sandy corn-fields of some parts of Norfolk, is a well-known European plant, growing wild in corn-fields, by road sides, in Spain, France, and Germany; it flowers in June and July, and ripens its seed in August. *CLUSIUS* observes, that as the plant grows old it becomes smoother, and a smooth variety of it is mentioned by *C. BAUHINE*.

If this plant be once introduced to a garden, in which the soil is light and the situation dry, it will come up yearly from seeds spontaneously scattered.







# CERASTIUM PUMILUM.

# DWARF CERASTIUM.

CERASTIUM. Linn. Gen. Pl. DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. Petala 2-fida. Caps. 1-locularis, apice dehiscens.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *pumilum* floribus pentandris, petalis bifidis longitudine calycis, capsula calyce duplo longiore.

To the lyncean eye of Mr. DICKSON we are indebted for the discovery of this species of Cerastium, so very nearly related to the *semidecandrum*, that if the two plants had not been seen wild on the same bank, they might long have been regarded as one and the same species; having raised it from seeds, observed it in all its states, and compared it, as it has proceeded in its growth, with the *Cerastium semidecandrum*, we do not hesitate to publish it as a species perfectly distinct. For want of a more appropriate name, we have assigned it that of *pumilum*.

It agrees with the *Cerastium semidecandrum* in being about the same size, usually a little smaller, having nearly the same habit, the same number of stamina, and in being also an annual; but differs from it in the following particulars.

The whole plant, but more especially the stalks and leaves, are more evidently hairy, being indeed perfectly hirsute, nearly as much so as in the *vulgatum*; the flowers are considerably larger, the petals being nearly twice the size, fully as long, or rather longer than the calyx, of course more showy, more conspicuous also from their superior whiteness, regularly bifid or divided down one third, so that they greatly resemble those of the *vulgatum*, *viscosum*, and most others of the same genus; the seed-vessels are much longer, and more tapering, for the most part twice the length of the calyx, but not always so; the character most to be depended on consists in the form, length, and division of the petals; its superior hairiness is also a good prima facie character; the hairs on the branches, it is to be observed, are equally viscous as in the *semidecandrum*; the seeds in the *pumilum* are larger, of a darker brown colour, and rougher.

Mr. DICKSON found this species, which may perhaps be more common than we are aware, on dry banks near Croydon.

It begins to flower as early as February and March, rather sooner than the *semidecandrum*, and ripens its seeds in May.

Slugs and snails are so extremely fond of the plant, that it is with great difficulty kept where they abound.

## Partes Frustrificationis.

- Fig. 1. Calycis foliolium auct.  
2. Petalum.  
3. Stamina cum pistillo.  
4. Pistillum.  
5. Capsula magnit. nat.  
6. Semen magnit. nat.  
7. Semen auct.

## Parts of the Frustrification.

- Fig. 1. One of the leaves of the Calyx magnified.  
2. A Petal.  
3. The Stamina with the Pistillum.  
4. The Pistillum.  
5. A Capsule of its natural size.  
6. A Seed of its natural size.  
7. The same magnified.



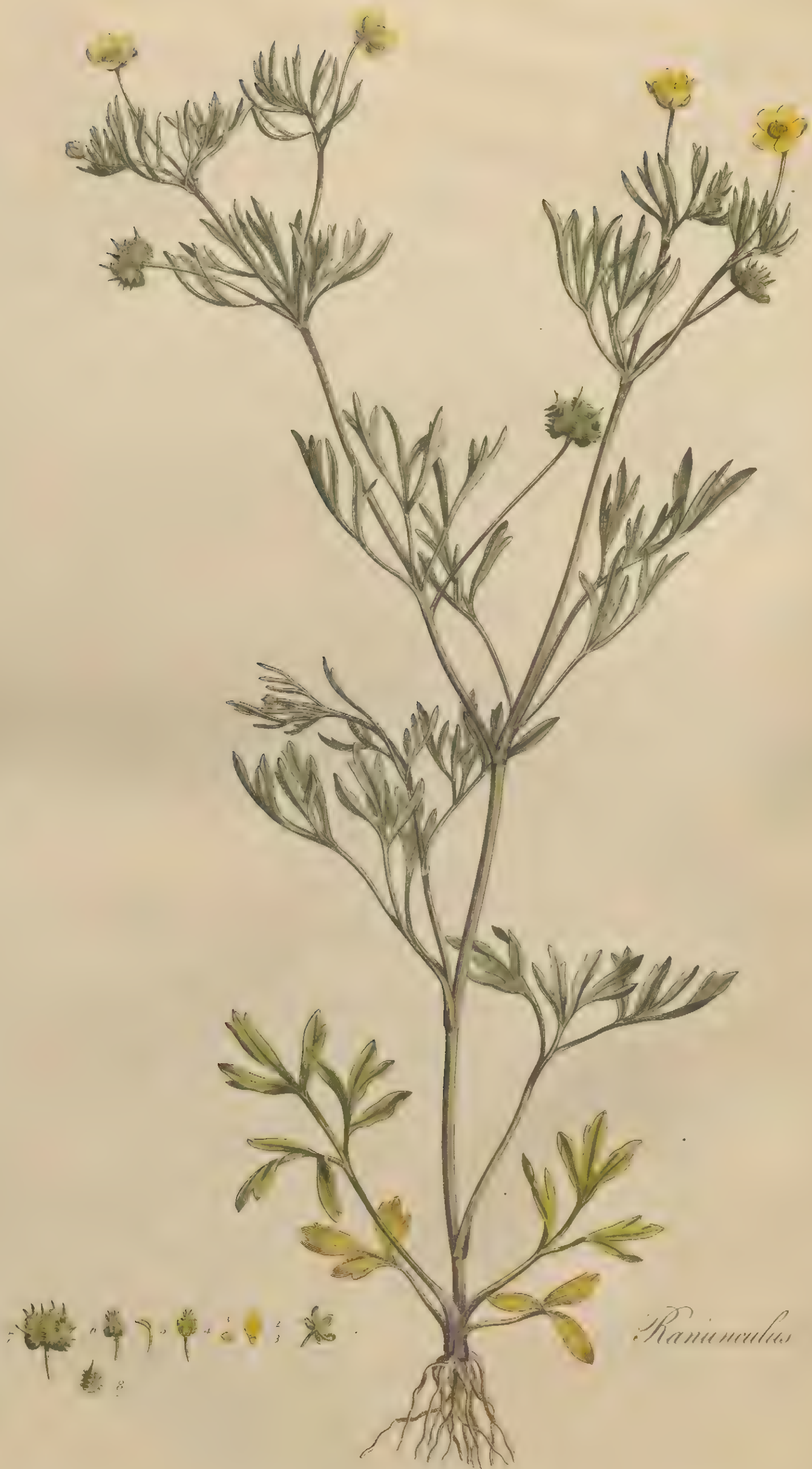


*Cerastium pumilum*









*Ranunculus arvensis*



# RANUNCULUS ARVENSIS.

# CORN CROWFOOT.

RANUNCULUS. *Linn. Gen. Pl.* POLYANDRIA POLYGYNIA.

*Cal.* 5-phyllus. *Petala* 5 intra ungues poro mellifero. *Sem.* nuda.

*Raii Syn. Gen.* 15. HERBÆ SEMINE NUDDO POLYSPERMÆ.

RANUNCULUS *arvensis* feminibus aculeatis, foliis superioribus decompositis linearibus. *Linn. Syst. Veget. ed.* 14. *Murr. p.* 518. *Fl. Suec. ed.* 2. *p.* 197. *Sp. Pl. ed.* 3. *v.* 1. *p.* 780. *Huds. Fl. Angl. ed.* 2. *p.* 242. *Lightf. Scot. v.* 1. *p.* 294. *Scop. Carn. v.* 1. *p.* 400. *ed.* 2.

RANUNCULUS feminibus aculeatis, foliis tripartitis, lobis longe petiolatis, bi et tripartitis, acute incis. *Hall. Hist. n.* 1176.

RANUNCULUS *arvensis* echinatus. *Bauh. Pin. p.* 179.

RANUNCULUS *arvorum.* *Park. Tb.* 328. *fig.* 4. *Crowfoote* of the ploughed fields. *Raii Syn. ed.* 3. *p.* 248. *Corn Crowfoot.*

RANUNCULUS *arvorum.* *Crowfoote* of the fallowed field. *Ger. Herb. p.* 805. *emac. p.* 951. *f.* 3.

RADIX annua, simplex, fibrosa.

ROOT annual, simple, and fibrous.

CAULIS erectus, pedalis et ultra, teretiusculus, hinc subcompressus, inferne lævis, superne hirsutus, ramosissimus, ramis ante florescentiam subnutantibus.

STALK upright, a foot or more in height, roundish, flattened a little on one side, smooth below, slightly hirsute above, very much branched, branches nodding somewhat before flowering.

FOLIA pleraque alterna, superiora quædam opposita, subpetiolata, vaginantia, tripartita, laciniis trifidis, patentibus, lacinulis lanceolato-linearibus, bi-trifidis, acutiusculis, basi angustatis; radicalia petiolata, laciniis latioribus.

LEAVES mostly alternate, some of the upper ones opposite, short footstalk'd, sheathing, tripartite, the segments trifid, spreading, the smaller divisions lanceolato-linear, bifid or trifid, somewhat pointed and narrowed at the base; root leaves standing on long footstalks, segments broader.

FLORES flavi, minores.

FLOWERS yellow, rather small than large.

PEDUNCULI foliis oppositi, iis paulo longiores, patulo-erecti, teretes, pubescentes, solitarii, uniflori.

FLOWER-STALKS opposite to and somewhat longer than the leaves, betwixt upright and spreading, round, downy, single and one-flowered.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, lutescentibus, basi albidis, deciduis, *fig.* 1.

CALYX: a PERIANTHIUM of five small ovate leaves, concave, yellowish, whitish at the base, and deciduous, *fig.* 1.

COROLLA: PETALA 5, obovata, intus nitida, extus venosa, unguibus parvis, *fig.* 2.

COROLLA: 5 PETALS, inversely ovate, glossy within, veiny without, claws small, *fig.* 2.

NECTARIUM fovea in singulo petalo supra unguem, squamula emarginata clausa, *fig.* 3.

NECTARY: a small depression in each petal above the claw, covered by a small emarginate scale, *fig.* 3.

STAMINA: FILAMENTA circiter 16, corolla dimidio breviora; ANTHERÆ erectæ, oblongæ, obtusæ, didymæ, petalis concolores, *fig.* 4, 5.

STAMINA: about 16 FILAMENTS half the length of the corolla; ANTHERÆ upright, oblong, obtuse, double, the colour of the petal, *fig.* 4, 5.

PISTILLUM: GERMINA numerosa, in capitulum collecta; STIGMATA recurva, *fig.* 6.

PISTILLUM: GERMINA numerous, forming a small head; STIGMATA bent back, *fig.* 6.

SEMINA sex ad octo, echinata, *fig.* 7.

SEEDS about six or eight, prickly, *fig.* 7.

Of the genus *Ranunculus* there are several species which have prickly seeds, but no english one in which they are so conspicuously so as in the present; what a difference in size and form betwixt these and those of the *Ranunculus sceleratus*, plants evidently of the same genus!

The *Ranunculus arvensis* is a plant common to the corn-fields of most parts of Europe, but grows more abundantly in some soils than others; it flowers in May and June, and ripens its seeds in June and July. As these readily vegetate where they are spontaneously scattered, this species adds to the list of the weeds of our corn-fields, but not of the most formidable kind.







# TRIFOLIUM OCHROLEUCUM. YELLOW CLOVER.

TRIFOLIUM. *Linn. Gen. Pl.* DIADELPHIA DECANDRIA.

*Flores subcapitati. Capsula vel Legumen vix calyce longius, non dehiscens, deciduum.*

*Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.*

TRIFOLIUM *ochroleucum* spicis villosis, caule erecto pubescente, foliolis infimis obcordatis. *Linn. Syst. Vegetab. ed. 14. Murr. p. 1143. Jacq. Fl. Austr. v. 1. p. 26. t. 40.*

TRIFOLIUM *ochroleucum* spicis villosis globosis, corollis monopetalis, calycum infimo dente longissimo recto, caule subdeclinato, foliisque villosis infimis obcordatis. *Huds. Fl. Angl. ed. 2. p. 325.*

TRIFOLIUM caule erecto, foliis hirsutis, supremis conjugatis, spicis oblongis. *Hall. Hist. 378.*

TRIFOLIUM pratense hirsutum majus, flore albo-sulphureo seu *αχρολεῦμα*. The great white or yellowish Meadow-Trefoil.

TRIFOLIUM montanum majus flore albo-sulphureo. *Merr. Pin.*

RADIX perennis.

ROOT perennial.

CAULES plures, pedales, sesquipedales, erecti, ramosi, teretes, hirsuti, sæpe purpurascens.

STALKS several, a foot to a foot and a half in length, upright, branched, round, hirsute, often purplish.

FOLIA utrinque hirsuta, mollia, integerrima, ad oras sæpe purpurea, infima minora, obcordata, caulina majora longe petiolata, remota, ovato-oblonga, obtusa, suprema breve petiolata, angustiora.

LEAVES hairy on both sides, soft, perfectly entire, often purple at the edges, the lowermost ones small, inversely heart-shaped, those of the stalk large, standing on long footstalks, ovato-oblong, obtuse, the uppermost ones narrower, standing on short footstalks.

STIPULÆ oblongæ, semiamplexicaules, nervosæ, bicuspidatæ, apicibus prælongis.

STIPULÆ oblong, half embracing the stalk, strongly ribbed, terminating in two long points.

FLORES in capitulis, solitariis, villosis, primo subrotundis, demum subovatis.

FLOWERS growing in single, villous heads, which at first are nearly round, and afterwards somewhat ovate.

CALYX persistens, monophyllus, tubulatus, albidus, hirsutus, quinque-dentatus, infimo dente cæteris duplo longiore, *fig. 1.*

CALYX continuing, monophyllous, tubular, whitish, hirsute, five-toothed, the lowermost tooth twice the length of the others, *fig. 1.*

COROLLA papilionacea, monopetala, ochroleuca: *Vexillum* infra tubulosum, tubo longitudine dentis calycinis infimi, limbo lanceolato, compresso, erecto, tubi longitudine; *Alæ* *Carinaque* cum vexillo coalitæ, istoque multo breviores, *fig. 2.*

COROLLA papilionaceous, monopetalous, pale yellow; *Standard* below tubular, tube the length of the lowermost tooth of the calyx, limb lanceolate, upright, length of the tube, sides compressed, *Wings* and *Keel* united to the standard, and much shorter than it, *fig. 2.*

STAMINA: FILAMENTA diadelphea simplex et novemfidum: ANTHERÆ simplices, minutæ flavæ.

STAMINA: FILAMENTS united in two bodies, nine and one; ANTHERÆ simple, minute, and yellow.

PISTILLUM: GERMEN subovatum: STYLUS subulatus, adscendens: STIGMA simplex.

PISTILLUM: GERMEN somewhat ovate; STYLE tapering to a point, bending upward; STIGMA simple.

PERICARPIUM: LEGUMEN calyce striato inclusum, membranaceum, tener, tenue, monospermum.

SEED-VESSEL: a POD contained within the striated calyx, membranous, thin, tender, one-seeded.

SEMEN luteum.

SEED yellow.

The *Trifolium ochroleucum* borrows its name from the colour of its blossoms, which is pale yellow, or brimstone, and that constantly so; by this character it is sufficiently distinguished from such of our other Clovers as resemble it in their general appearance: to this we may add the greater hairiness of the whole plant, the unusual length and uprightness of the Vexillum, as well as the disproportionate length of the lowermost segment of the Calyx. Did such distinctions generally prevail, enchanting indeed would be the study of plants!

This species affects dry pastures in the more eastern parts of the kingdom, and frequently such as have a chalky or calcareous soil; in the environs of London it is rarely found; we have observed it sparingly about Barnet; in some parts of Essex, especially about Dunmow, it is particularly abundant, as we are assured by our excellent friend, Dr. JOHN SIMS, to whose botanical skill we are proud of acknowledging ourselves frequently indebted: we have received roots of it also from LEWIS MAJENDIE, of Hedingham-Castle, Essex, of whose knowledge in agriculture, and of whose zeal in promoting his country's best interests, the annals of agriculture afford ample testimony.

It flowers in June and July.

From the great aversion it has to moisture, we could never keep it in our garden at Lambeth-Marsh.

In point of produce it is superior to the *Trifolium repens*, and, for certain soils and situations, it may perhaps prove a good substitute for it, or the *pratense*. We recommend it to the notice of the experimental agriculturist.





*Trifolium ochroleucum*









*Centaurea Cyanus*



# CENTAUREA CYANUS. CORN BLUE-BOTTLE.

CENTAUREA. Linn. Gen. Pl. SYNGENESIA POLYGAMIA FRUSTRANEA.

Receptaculum fetosum. Pappus simplex. Cor. radii infundibuliformes, longiores, irregulares.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO, SIVE CAPITATÆ.

CENTAUREA Cyanus calycibus ferratis, foliis linearibus integerrimis: infimis dentatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 785. Sp. Pl. ed. 3. p. 1289. Fl. Suec. n. 776. Lightfoot Fl. Scot. v. 2. p. 499. Blue-bonnets. Scot. Aust. Hudf. Fl. Angl. ed. 2. p. 375.

CYANUS foliis imis ellipticis, dentatis, supremis linearibus, semiflosculis latissimis. Haller Hist. n. 191.

CENTAUREA Cyanus. Scop. Fl. Carn. 2. p. 138.

CYANUS fegetum. Bauh. Pin. 273.

CYANUS vulgaris. Ger. Herb. p. 592.

CYANUS minor vulgaris diverforum colorum. Park. Theat. p. 481. Raii. Syn. ed. 3. p. 198. Blue-bottles.

RADIX annua, subfusiformis, lignosa, fibrosa.	ROOT annual, somewhat spindle-shaped, woody, and fibrous.
CAULIS erectus, bi-tripedalis, subangulatus, tomento araneoso vestitus, fistulosus, ramosus; Rami erecti, caule altiores.	STALK upright, two or three feet high, somewhat angular, covered with a kind of cobwebby down, hollow, branched; the Branches upright, taller than the stalk.
FOLIA caulina alterna, sessilia, linearia, 3 ad 5 nervia, acuta, pagina superior alba, tomentosa, inferior viridis, nudiuscula, infima radicalia in adolescenti planta multo latiora, obtusiora, et subintegra, iis proxima plus minusve dentata, aut laciniata.	LEAVES of the stalk alternate, sessile, linear, from three to five-ribbed, pointed, the upper side white, and cottony, the under side green, with scarcely any cottony substance, the lowermost radical leaves in the young plant much broader, blunter, and for the most part entire, the next to them more or less toothed or jagged.
FLORES læte cærulei, inodori; Pedunculi simplices, superne incrassati.	FLOWERS of a bright blue colour and scentless; Flower-Stalks simple, thickened above.
CALYX communis subrotundus, imbricatus, squamis lanceolatis, interioribus longioribus, integris, superne rufescentibus, apice fibris fuscescentibus ciliatis; exterioribus brevioribus, ferratis, ferraturis reflexis.	CALYX common to all the florets, nearly round, imbricated, scales lanceolate, the inner ones longest, entire, reddish above, fringed at top with little brownish fibres; the outer ones shorter, serrated, the teeth reflexed.
COROLLA composita, flosculosa, difformis, Corollula hermaphrodita plurimæ in disco, fig. 2. femineæ pauciores, majores, laxæ in radio, fig. 1. propr. hermaph. 1-petala, tubo filiformi, obliquo, limbo ventricoso, oblongo, erecto, terminato laciniis 5-linearibus, erectiusculis, femineis 1-petala, tubo tenui, sensim ampliato, recurvo, limbo oblongo, inæqualiter diviso, subplicato, laciniis lanceolatis.	COROLLA compound, flosculose, misshapen; the hermaphrodite florets in the centre numerous, fig. 2. the female florets in the circumference fewer, larger, and loose, fig. 1. each single hermaphrodite floret monopetalous, the tube filiform, oblique, the limb bellying, oblong, upright, terminating in five linear nearly upright segments, the female florets monopetalous, the tube slender, gradually enlarging and bent back, the limb oblong, unequally divided, somewhat folded, the segments lanceolate.
STAMINA hermaphroditis: FILAMENTA 5, capillaria, brevissima; ANTHERA cylindracea, tubulata, corolla paulo longior.	STAMINA of the hermaphrodite flowers: FILAMENTS five, capillary, very short; ANTHERÆ forming a cylindrical tube, a little longer than the corolla.
PISTILLUM hermaphroditis: GERMEN parvum; STYLUS filiformis, longitudine flaminum; STIGMA obtusissimum, acumine bifido prominens. Femineis: GERMEN minimum; STYLUS vix ullus; STIGMA nullum.	PISTILLUM of the hermaphrodite flowers: GERMEN small; STYLE filiform, the length of the stamina; STIGMA very blunt, with a prominent bifid point. Of the Female flowers: GERMEN very minute; STYLE scarcely any; STIGMA none.
SEMINA hermaphroditis solitaria; Pappus fetaceus, fig. 3.	SEEDS from the hermaphrodite florets, solitary; Pappus or Down bristly, fig. 3.

Few of the vegetable tribes are more hardy than the Corn Blue-Bottle; its seedling plants, which come up abundantly in Autumn, brave the severest frosts.

The radical leaves are entire, those which follow usually toothed, sometimes deeply jagged, hence foliis inferioribus dentatis, would be more proper than infimis.

We have represented a seedling plant, as it appears in the Spring; when the plant flowers, it loses in common with many others its radical leaves, and with them part of its specific character.

It grows abundantly in most of our corn-fields, which it enlivens by the brilliancy of its flowers during the months of June and July: the husbandman views it as a pernicious weed requiring his greatest care to eradicate, as it is not only very injurious to his corn, but blunts the sickles used in reaping it, whence its name of *hurt-sickle* found in some old authors.

Though a troublesome weed, agriculturally considered, the beauty of its flowers has recommended it to the garden, in which it is now regularly sown, as an ornamental plant, with other annuals, and appears with a great diversity of colours.

A fine blue for colouring is said to have been extracted from the blossoms of this plant; we should strongly suspect the durability of colour so obtained: the blue used by my artists in colouring its outermost petals is called azure blue, and may be had, by such as find a difficulty in obtaining good colours, of Mr. WILLIAM GRAVES, Newington, Surrey, principal colourer of this work, whose unwearied care to do justice to his employer, has contributed not a little to advance the reputation both of the Flora Londinensis and Botanical Magazine.







ANTIRRHINUM LINARIA  
var. *Peloria*.

The Variety of TOAD-FLAX  
called *Peloria*.

The earliest account that we find of the *Peloria* is in the first volume of the *Amœnitates Academicæ* of LINNÆUS, published in 1749; it there forms a distinct thesis or dissertation, written by DANIEL RUDBERG, who enters minutely into the history of the plant, describes it fully, and illustrates it by an engraving.

The plant appears to have been first discovered in the year 1742, growing in a province of Sweden, about seven miles from Upsal, by a botanical student of the name of ZIOBERG, who gathered a specimen of it, and placed it in his herbarium, as a plant he had not before seen, ignorant at the same time of its nature and æconomy, and of the value of his discovery: in the same year Professor CELSIUS, no less celebrated for his knowledge of plants than of languages, happening to look over Mr. ZIOBERG's collection, was immediately struck with the extraordinary appearances of this novelty; but the state it was in, being dry and stuck on paper, prevented him at that time from examining it to the extent he wished. In a short time the Professor had an opportunity of shewing it to LINNÆUS, who after looking at it with great attention, proclaimed it to be a specimen of *Antirrhinum Linaria*, with the flowers, as he suspected, of some exotic, stuck on it, instead of its own; such deceptions are well known to be sometimes practised, but on opening one of the flowers, he was convinced that his suspicions were unfounded: he now became impatient to possess the living plant, roots of which, at his request, were sent him by Mr. ZIOBERG, and planted in the botanic garden at Upsal, but did not succeed; these would have been replaced in 1743, but the plants where they originally grew had been obliterated by cattle: the same injury befel them in 1744, so that it is probable LINNÆUS did not enjoy the pleasure he so ardently wished for, of seeing it blossom; and there is reason to conclude, that both the description and figure in the *Amœn. Acad.* were taken from ZIOBERG's dried specimen, which will in some degree apologise for the inaccuracy of both; that of the former we shall have occasion to mention in the sequel of this account.

Since the above dissertation was published, the *Peloria* has been found wild in various parts of Germany, and also in this our island. Mr. HUDSON, in the first edition of his *Flora Anglica*, mentions it as growing near Clapham, Surrey; but as no botanist has observed it there since that publication, and as in the second edition of the said work the fact is no longer noticed, we may reasonably conclude that Mr. HUDSON was mistaken.

In the year 1792, Mr. ORDOYNO, Nurseryman at Newark-upon-Trent, most obligingly sent me some roots of this plant, found growing wild by Mr. LEIGHTON, of Brocklesby, near Brigg in Lincolnshire, in some woods belonging to Mr. PELHAM; these were planted in a pot, and flowered with me sparingly in 1793: this summer, 1794, in the beginning of August, they produced a great number of flowering stems, and flowers in abundance, every one of which was true to its character; but though the parts of fructification were perfect, no seed-vessels were formed; its failure in this respect I attribute to my keeping the plant in too sheltered a situation, as a plant from the same root growing in a pot at Mr. VERE's, Brompton Park-House, Kensington-Gore, under the management of his gardener WILLIAM ANDERSON, produced two perfect seed-vessels, containing many to all appearance well-conditioned seeds: we may observe that the flowers of the *Linaria* itself are rarely fertile, unless the plant be exposed to an open sunny aspect.

When the *Peloria* was first published in the *Amœnit. Acad.* LINNÆUS regarded it as a new genus, the characters of which are there described, he was inclined to think that it might be a hybrid plant, generated betwixt the LINARIA, and some other unknown vegetable; the sexuality of his system often led the great LINNÆUS to indulge in whims of this sort, in the *Sp. Pl. ed. 3.* we find him to have relinquished the opinion of its being a distinct genus\*, but still adhering to his favourite idea of hybridity, now, as far as relates to this plant, very generally exploded. Prof. MURRAY has observed, that the flowers of the genus *Antirrhinum* are peculiarly subject to monstrosity; we ourselves have frequently seen the flowers of the common Toad-Flax with two or three spurs, and those of the *majus* having a tendency to a *Peloria*-like appearance, but never to assume the regularity which constitutes the beauty and extreme singularity of that plant; there is, however, no appearance in the structure of the flowers of the *Peloria* but what may be traced to those of the *Linaria*, of which they certainly are a most wonderful modification, and hence there does not appear to be the least necessity for having recourse to any preternatural sexual intercourse to explain this extraordinary phenomenon.

The monstrosity in the *Peloria* appears to be confined wholly to the Corolla with its attendant Stamina, which is hereby rendered a species of *Flos multiplicatus*, there is nothing in the other parts of the plant to distinguish it from the common Toad-Flax; that the difference in the flowers of the two plants might be more obviously seen, we have had a flower of the *Linaria* engraved on the same plate, fig. 7. this in *Peloria* is so metamorphosed as scarcely to retain one original feature; the calyx, fig. 1. varies but little, not at all in the number of its divisions; the Corolla from being irregular becomes regular, below it is dilated, above contracted, so as to form a tubular kind of neck, terminating in a prominent circular rim, which rolls back and is divided into five regular short somewhat obtuse segments, fig. 2. the mouth is internally villous, and puckered up so as to become impervious; instead of one depending spur-like Nectary, there are five, springing from the base of the Corolla, fig. 3. and spreading out almost horizontally; the Stamina are increased from four to five, fig. 4. these most assuredly are attached to the Corolla, notwithstanding LINNÆUS's assertion that they are *nullo modo corollæ affixa*, for on pulling off the Corolla, which easily separates from the receptacle in the living plant, they come away with it; no very material alteration takes place in the form of the Filaments, or Antheræ, fig. 5. nor does the Pistillum appear to partake of the monstrosity, fig. 6. hence there is no physical cause for that sterility, which most of the authors who have mentioned this plant attribute to it.

We regret extremely that we cannot as yet give a satisfactory answer to the Linnæan Quere in the *Amœn. Acad. an ex Peloriæ seminibus Linaria unquam enascatur*; we think it highly probable that the seeds of the *Peloria* will produce plants both of common Toad-Flax and *Peloria*, perhaps some bearing flowers common to both, such as HALLER relates to have been observed by FABRICIUS; but this important fact remains to be ascertained by actual experiments: with such we are now engaged, and shall not fail taking the earliest opportunity of laying the result of them before our readers, when we treat of the *Antirrhinum majus*.

The *Peloria*, like the *Linaria*, increases greatly by its roots, like that plant it succeeds best in a dry soil and exposed situation, and no plant thrives better in a pot.

LINNÆUS derives the name of this lusus from the greek word *πέλωρ* which signifies any thing monstrous; hence APOLLONIUS RHODIUS calls a monstrous birth *πέλωρ τεκνέον*.

\* *Linariæ proles hybrida—genus proprium constitueret nisi fructus semper abortiret—naturæ prodigium, Linn. Sp. Pl. ed. 3.*





*Scilla*









*Helleborus viridis*



# HELLEBORUS VIRIDIS.

# GREEN HELLEBORE.

HELLEBORUS. *Lin. Gen. Pl.* POLYANDRIA POLYGYNIA.

*Cal. o. Petala 5. f. plura. Nectaria bilabiata, tubulata, Capsulae polyspermæ, erectiusculæ.*

*Raii Syn. Gen. 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.*

HELLEBORUS *viridis* caule bifido, ramis foliosis bifloris, foliis digitatis. *Lin. Syst. Vegetab. p. 59. Sp. Pl. 784. Scop. Carn. ed. 2. n. 697. Hudf. Fl. Angl. ed. 2. p. 245. Lightf Scot. p. 297. Jacq. Fl. Austr. v. 2. t. 206.*

HELLEBORUS foliis multipartitis, ferratis, caule paucifloro. *Hall. Hist. n. 1192.*

HELLEBORUS niger hortensis flore viridi. *Baub. Pin. 185.*

HELLEBORASTER minor, flore viridante. Bastard blacke Hellebor or Bearesfoote. *Park. 212.*

HELLEBORASTRUM Wilde blacke Hellebor. *Ger. Herb. p. 825. f. 2. emac. p. 976. f. 2. Raii Syn. ed. 3. p. 271.*

VERATRUM nigrum II. *Dod. Pempt. p. 385. f. 2.*

**RADIX** perennis, ex fusco nigricans, novos furculos quotannis promens, plurimis fibris, majusculis capillata, fibris longis, radice ipsa pallidioribus, intus albicantibus, saporis amari, subacris, ingrati.

**CAULIS** subfoliarius, erectus, pedalis circiter, plerumque bifidus, subnudus, glaber, teretiusculus, inferne purpurascens; ramis patentibus, foliosis, subbifloris.

**FOLIA** digitata, inæqualiter fissa, laciniis oblongolanceolatis, acutis, argute ferratis, venosis, obscure viridibus, lucidis; radicalia petiolata, multipartita, petiolo semitereti, sulcato; caulina ad divisiones ramorum pedunculorumque sessilia tri-quadri-quinquelobata.

**FLORES** mediæ magnitudinis, subnutantes, virides, subsuaveolentes.

**PEDUNCULI** subcompressi, rugosi.

**CALYX** nullus.

**COROLLA:** PETALA 5, ovata, obtusa, calyciformia, viridia, foliis pallidiora, intus venosa, persistentia.

**NECTARIA** circiter decem, luteo-virentia, inter petala et stamina, in orbem posita, erecta, tubulosa, pedunculata, ore obsolete bilabiato, crenato, *fig. 2.*

**STAMINA:** FILAMENTA numerosa, nectariis duplo longiora, subulata, lutescentia; ANTHERÆ erectæ, ovals, pallidæ, *fig. 1.*

**PISTILLUM:** GERMINA a duobus ad sex, raro plura, magna, oblonga, lævia; STYLI subulati, recurvati; STIGMATA obtusa, crassiuscula, *fig. 3.*

**ROOT** perennial, of a blackish brown colour, putting forth yearly new shoots, furnished with numerous large fibres, which are long, paler than the root itself, whitish within, of a bitter, somewhat acrid, and unpleasant taste.

**STALK** usually single, upright, about a foot in height, generally bifid, almost naked, smooth, nearly round, below purplish, branches spreading, leafy, supporting for the most part two flowers.

**LEAVES** fingered, unequally cloven, segments oblong-lanceolate, pointed, finely serrated, veiny, of a dull green and glossy, those next the root standing on footstalks, deeply divided into many segments, the footstalk convex on one side, flat on the other, and grooved, those of the stalk placed at the divisions of the branches and peduncles, sessile, three, four, or five lobed.

**FLOWERS** of a middling size, nodding somewhat, green, slightly odoriferous.

**FLOWER-STALKS** somewhat flattened and wrinkly.

**CALYX** none.

**COROLLA:** 5 PETALS, ovate, obtuse, calyx-like, green, paler than the leaves, veiny on the inside, continuing.

**NECTARIES** about ten, of a yellowish green colour, placed in a circle between the petals and stamina, upright, tubular, standing on footstalks, the mouth faintly two lip'd and notch'd, *fig. 2.*

**STAMINA:** FILAMENTS numerous, twice the length of the nectaries, tapering, yellowish; ANTHERÆ upright, oval, of a pale colour, *fig. 1.*

**PISTILLUM:** GERMINA from two to six, rarely more, large, oblong, smooth; STYLES tapering, bending back; STIGMATA blunt, thickish, *fig. 3.*

The *Helleborus viridis*, so called from the green colour of its flowers, is found sparingly in the neighbourhood of London, we have seen it wild only in one spot, a small wood near Finchley, where it was discovered by Mr. JACOB RAYER, a zealous and indefatigable labourer in the cause of Botany; in various other parts of the kingdom it is more common, but not generally so: with us it is usually found in woods and copses, especially such as have a moist stiff soil, which it particularly affects, and out of which it will not thrive; in different parts of Germany it is said to grow in open mountainous situations, and where, if we may judge from Prof. JACQUIN's figure, it is less luxuriant than here.

It begins to flower in February, and continues in blossom through March and part of April; when favourably situated it produces seeds in abundance.

C. BAUHINE observes, that its roots are by many used medicinally; their qualities are most probably the same as those of the *niger*, and *fatidus*; and hence there is little doubt but they may be safely substituted for those of the former, which is the true officinal plant: in fact they are so used in London. Mr. BABINGTON, who so honourably fills the station of Apothecary to Guy's-Hospital, assures me that great quantities of its roots are yearly sent up from the country, and used for those of Black Hellebore; they are of a lighter colour, which is the most obvious character by which they are distinguishable: it is a fortunate circumstance that from their being possessed of similar qualities, the health of the public is not likely to receive any material injury from an imposition so gross, or from ignorance so unpardonable. VOGEL informs us in his *Materia Medica*, that the Francfort and Hambro' merchants frequently substitute the roots of the *Adonis vernalis* for those of the *Helleborus niger*. To the injuries arising from such impositions the public will be liable, while medical men are so inattentive to the few plants now used medicinally, and while the walking an Hospital, as it is called, and dissecting a dead body, shall be considered as all-sufficient to qualify for the most important profession in life.







# MELICA NUTANS. MOUNTAIN MELIC-GRASS.

MELICA Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, 2-florus. Corpusculum pedicellatum inter flosculos. Nectarium monophyllum. Stamina basi dilatata. Linn. Syst. Nat. ed. 13. Gmelin.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

MELICA *nutans*, petalis imberbibus, panicula nutante simplici. Linn. Syst. Vegetab. ed. 14. Murr. p. 112. Sp. Pl. ed. 3. p. 98. Flor. Suec. ed. 2. p. 26. Scopoli Carn. ed. 2. p. 67. Lightf. Scot. v. 1. p. 95. Leers Herb. p. 25. Schreb. Agrost. p. 63. ic. 6.

MELICA *montana* petalis imberbibus, panicula coarctata, secunda, erecta, subsimplici, floribus pendulis. Hudson Fl. Angl. ed. 2. p. 37.

POA panicula laxa, locustis nutantibus dianthis, alterno flosculo imperfecto. Haller Hist. n. 1472.

GRAMEN montanum avenaceum, locustis rubris. Baub. Pin. 10.

RADIX perennis, fibrosa, subrepens.

CULMI pedales aut sesquipedales, simplices, erecti, foliosi, scabri, striati, subangulosi, inferne purpurei.

FOLIA ad basin culmi brevia, squamiformia, fuscescentia, sicut ascendunt, longiora et angustiora evadunt; scabriuscula, lineam cum dimidia lata.

LIGULA nulla.

PANICULA bi-triuncialis, subnutans, secunda, simplex, vel ramosa; pedunculis capillaribus, rachis subappressis, flexuosis, erectis, ad lentem villosis, præcipue ad flores ubi paululum incrassantur.

SPICULÆ plerumque trifloræ, rudimento flosculi pedicellato clavato, fig. 3.

CALYX: Gluma bivalvis, valvulis inæqualibus, ovatis, obtusis, obsolete nervosis, primo purpureis, demum fuscescentibus. fig. 1.

COROLLA: Gluma bivalvis, valvulis inæqualibus, exteriore magna, concava, ovata, multinervia, nervis plerisque mediam valvulæ vix attingentibus; interiore lata, plana, multo brevior, fig. 2.

STAMINA: FILAMENTA 3 capillaria, distincta; ANTHERÆ flavæ, fig. 4. 8.

GERMEN: lato-ovatum, pellucidum; STYLI duo, inferne nudi, superne plumosi, patentes, fig. 6. 9.

NECTARIUM: Glumulæ duæ, carnosæ, truncatæ, fig. 7.

ROOT perennial, fibrous, somewhat creeping.

STALKS a foot or a foot and a half high, simple, upright, leafy, rough, striated, somewhat angular, below purplish.

LEAVES at the base of the stalk short, scale-like, brownish, as they ascend becoming longer and narrower, a line and a half broad, and slightly rough.

MEMBRANE at the base of the leaf wanting.

PANICLE, two or three inches long, bending down a little, with the flowers inclining one way, simple or branched; peduncles capillary, pressed to the rachis, crooked, upright, villos if magnified, especially at the flower, where they are somewhat thickened.

SPICULÆ usually three-flowered, rudiment of the floret forming a sort of club, fig. 3.

CALYX: a Glume of two valves, valves unequal, ovate, blunt, faintly ribbed, at first purple, lastly of a brownish hue, fig. 1.

COROLLA: a Glume of two valves, valves unequal, the outer one large, concave, ovate, many-ribbed, most of the ribs scarcely reaching half its length; the inner one broad, flat, and much shorter, fig. 2.

STAMINA: 3 capillary FILAMENTS, quite distinct; ANTHERÆ yellow, fig. 4. 8.

GERMEN of a broad ovate form, and pellucid; STYLES two, naked below, above feathery, and spreading, fig. 6. 9.

NECTARY: two little Glumes, fleshy, and truncated, fig. 7.

This elegant species of *Melica* inhabits rocky and shady situations in the more Northern parts of Europe; Mr. HUDSON mentions it as growing in the mountainous woods of Yorkshire, Westmoreland, and Cumberland; Mr. LIGHTFOOT plentifully in Scotland; we observed it abundantly in Grass-Wood, near Grassington, in the neighbourhood of Kilnsay, Yorkshire, a most romantic spot, and fertile in rare plants.

It flowers in July and August.

Mr. LIGHTFOOT observes that it varies with flowers nearly sessile, growing in a spike instead of a panicle.

LEERS description and delineation of the minute parts of the fructification in this species, contrary to what we generally find in his excellent work, distinguished and much depended on for its accuracy, are very erroneous; the filaments are not united at the base, nor is the nectary formed of one entire circular piece, but of two, having the appearance indeed of one, separable on a nice dissection; they do not entirely surround the germen; it is the more necessary to notice this circumstance, as it appears to have misled Professor GMELIN, who makes the *Nectarium monophyllum* a part of the generic character in the *Melica*. Professor SCHREBER's magnified representation of the nectary, to which the same fault is imputable, may have contributed its share also.

SCHREBER, HALLER, and SCHEUCHZER, refer to the *gramen montanum spicatum* of CLUSIUS for our plant, but it accords so ill with it, both as to figure and description, that we suspect that author must have meant some other plant.

Genera undoubtedly run into one another, but surely there is a wide difference between the fructification of this plant and that of a *Poa*, to which it is referred by Baron HALLER, and of an *Aira*, to which Professor GMELIN hints that it might be joined.

This species of *Melica* is easily cultivated by parting and planting out its roots in autumn, it is to be admired for its elegance, but has little pretensions to be regarded for its utility.





*Helictotrichon nutans*

S. Edwards del.









*Tibia Verbena*



# SALVIA VERBENACA. WILD SAGE, or CLARY.

SALVIA Linn. Gen. Pl. DIANDRIA MONOGYNIA.

Corolla inæqualis. Filamenta transverse pedicello affixa.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

SALVIA *Verbenaca* foliis ferratis sinuatis læviusculis, corollis calyce angustioribus. Linn. Syst. Vegetab. ed. 14. p. 70. Sp. Pl. p. 35. Lightfoot Scot. v. 1. p. 79. Hudf. Fl. Angl. ed. 2. p. 10.

HORMINUM fylvestre Lavendulæ flore. Baub. Pin. 239. Park. Tb. p. 57. Wild Clary with Spike Flowers. Raii Syn. ed. 3. p. 237. Common English wild Cary.

HORMINI fylvestris IIII. quinta species. Clus. 2. p. xxxi.

HORMINUM fylvestre. Ger. Herb. p. 628. Wild Clarie or Oculus Christi; as to the description, the figure doubtful, the radical leaves being too pointed and the flowers too large. Ger. emac. p. 771. f. 1.

<b>RADIX</b> perennis, fusca, crassitie digiti intermedii descendens, plurimis fibris capillata.	<b>ROOT</b> perennial, brown, the thickness of the middle-finger, striking deep into the earth, and furnished with numerous fibres.
<b>CAULES</b> erectiusculi, bipedales, tetragoni, pilosi, pilis horizontalibus, subviscidis, ad nodos præcipue purpurascens, ramosi; Rami oppositi.	<b>STALKS</b> nearly upright, two feet high, four-cornered, hairy (hairs horizontal, somewhat viscid) purplish, especially at the joints, branched; Branches opposite.
<b>FOLIA</b> radicalia longe petiolata, variabilia, oblonga, apice nunc rotundata, nunc acutiuscula, basi nonnunquam cordata, sæpius vero folium in petiolum utrinque decurrit et ad unum latum longius extenditur, hirsutula, sinuato-ferrata, subtus pallidiora, venosa et punctis glandulosis excavatis notata; caulina remotiuscula, inferiora petiolata, petiolis brevioribus, superma sessilia.	<b>LEAVES</b> next the root standing on long footstalks, variable in their form, oblong, sometimes rounded at the extremity, sometimes a little pointed, not unfrequently heart-shaped at the base, but more commonly the leaf runs down on each side of the footstalk, and to a greater length on the one side than on the other, very slightly hirsute, on the margin irregularly waved and sawed or toothed, of a paler colour on the under side, veiny and marked with small glandular concave dots; the stalk-leaves somewhat remote, the lowermost of them standing on short foot-stalks, the uppermost sessile.
<b>FLORES</b> verticillati, verticillis nudiusculis, subsessilibus.	<b>FLOWERS</b> growing in whorls, somewhat naked, containing about six flowers.
<b>BRACTEÆ</b> cordatæ, acuminatæ, deflexæ, floribus breviores.	<b>FLORAL-LEAVES</b> heart-shaped, long-pointed, turned down, shorter than the flowers.
<b>CALYX</b> : PERIANTHIUM monophyllum, bilabiatum, purpurascens, viscidulum, persistens; labium superius obovatum, mucrone brevi sæpius terminatum, trinerve, nervis duobus abbreviatis, labium inferius nervosum ad dimidiam fere bifidum; laciniis ovato-lanceolatis, mucronatis, fursum curvatis, fig. 1.	<b>CALYX</b> : a PERIANTHIUM of one leaf, two lip'd, purplish, slightly viscid, and continuing; the upper lip obovate, most commonly terminated by a short point, three-rib'd, two of which are much shorter than the middle one; the lower lip rib'd, divided nearly half way down, segments ovato-lanceolate, pointed, turned up, fig. 1.
<b>COROLLA</b> monopetala, inæqualis, violacea, calyce paulo longior; <i>Tubus</i> superne amplius, compressus; <i>Limbus</i> ringens; <i>Labium</i> superius concavum, compressum, incurvum, emarginatum; <i>Labium</i> inferius latum, trifidum, lacinia media majori, rotundata, depressa, emarginata, fig. 2.	<b>COROLLA</b> monopetalous, unequal, violet-coloured, a little longer than the calyx; <i>Tube</i> above enlarged, flattened; <i>Limb</i> gaping; upper <i>Lip</i> concave, flattened, bent downwards, emarginate; lower <i>Lip</i> broad, trifid, middle segment largest, rounded, depressed, emarginate, fig. 2.
<b>STAMINA</b> : FILAMENTA duo, breviora; ANTHERÆ oblongæ, nigræ, fig. 3.	<b>STAMINA</b> : Two FILAMENTS, short; ANTHERÆ oblong, black, fig. 3.
<b>PISTILLUM</b> : GERMEN quadrifidum; STYLUS filiformis, longus; STIGMA bifidum, fig. 4.	<b>PISTILLUM</b> : GERMEN quadrifid; STYLE filiform, long; STIGMA bifid, fig. 4.
<b>SEMINA</b> quatuor in fundo calycis, subrotunda, nigra, fig. 5, 6.	<b>SEEDS</b> four in the bottom of the calyx, of a roundish figure and black colour, fig. 5, 6.

The *Salvia Verbenaca* is a common plant, not only in dry pastures and uncultivated places near London, but generally throughout the kingdom; we have frequently remarked that it very often occurs in Church-Yards.

It flowers during most of the summer, and towards autumn produces abundance of seeds, which scattering on the ground, and readily growing, dispose this plant soon to become a weed.

It varies considerably in size, and very much in the form of its leaves; when bruised it emits a strong and somewhat unpleasant smell.

The seed put into water soon becomes invested with a thick mucilage.

Formerly it had some reputation as a medicinal plant; GERARD tells us, "That the seede put whole into the eyes cleanseth and purgeth them exceedingly from waterish humours, rednesse, inflammation, and divers other maladies, or all that happen unto the eyes; and takes away the pain and smarting thereof, especially being put into the eyes one seed at one time and no more." RAY, who was too credulous in matters of this sort, attributes their efficacy to their form and smoothness; we have heard their mode of operating accounted for in some other way: but surely there is a manifest absurdity in the idea thus entertained of their efficacy, and no small danger attendant on their use: the putting a hard substance into a part naturally so tender as the eye, must at any time be sufficient to excite inflammation, and at all times increase it; we therefore caution such of our readers as are fond of using the edged tools of medicine, to be on their guard against applying so doubtful a remedy in diseases of an organ so exquisitely formed.







# BROMUS DIANDRUS. DIANDROUS, BROME-GRASS.

BROMUS Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Spicula oblonga, teres, disticha; arista infra apicem.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

BROMUS *diandrus* panicula erecto-patente, spiculis multifloris, flosculis diandris.

BROMUS *muralis* panicula patulo-erecta simplici, spiculis linearibus, floribus acuminatis scabris, aristis longis. Hudf. Fl. Angl. ed. 2. p. 50.

BROMUS *madritensis* panicula rariore patulo-erecta; spiculis linearibus; intermediis geminis, pedicellis superne incrassatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 120. ?

GRAMEN bromoides, pumilum, locustis erectis, majoribus, aristatis. Scheuchz. Agr. ed. Hall. p. 260.

BROMOS *sterilis* erecta panicula major. Barr. ic. 76. n. 1.

We many years since observed the grass here represented, growing on the wall of a garden near Battersea Church, situated at a small distance from the high-road which leads from the bridge to Battersea, out of which you turn in proceeding to the church;—a few yards down this turning, on the garden-wall to the right, it will readily be found: for on the same spot, we observed it again this present summer, in company with Mr. OGLE, Surgeon, Great Russell-Street, Bloomsbury; on the top of the wall it was in a stunted state, at the foot of it more luxuriant.

On the first discovery of this plant, I was induced, from a cursory view, to regard it as a variety of *Bromus sterilis*, with peduncles shorter than usual; but having introduced it to my garden, and found that several years culture made no alteration in its principal character, I had little doubt of its being a distinct species, and the little I had was completely removed, when I came to dissect the parts of fructification; for, to my great astonishment, I found that there were only two stamina to each flower, and that generally.

Growing in the same situation as the *sterilis*, it is a smaller plant; the spiculæ in the *sterilis* standing on long peduncles (whereby they are rendered weaker) constantly droop; in the *diandrus* the peduncles being short, support the spiculæ in an upright position; this gives a different air to the plant, which otherwise from the great similarity of its stalks, foliage, size and form of its spiculæ, would be very liable to be confounded with the *sterilis*.

In dry seasons, when the *Bromus diandrus* grows on walls, it is much shorter than the plant we have figured; in such situations, more particularly as the plant advances to maturity, the panicle closes together, and the spiculæ become of a brownish purple hue; in this state it differs still more obviously from the *sterilis*, and may be distinguished even at a distance: we are not, however, to regard this plant as confined to walls; like the *sterilis*, it is found on them by accident: we observed it in the year 1793, on the banks of the Severn, at the foot of St. Vincent's Rock, where my very good friend, Dr. FORD, then resident at Bristol, also observed it to grow in great plenty.

If our plant be the *Bromus madritensis* of LINNÆUS, which we are induced to believe, from its according so well with the figure of BARRELIER, to which he refers, it will be found to be a native of Spain, and Italy, and perhaps of other different parts of Europe: there can be little doubt of its being the *muralis* of Mr. HUDSON, though he has omitted to notice the peculiar circumstance of its having only two stamina, a phenomenon so unusual in plants of this tribe, that we have thought it ought to receive its trivial name from it, more especially as the plant is found to be confined to no particular country or situation.

It flowers in May and June, and ripens its seeds in July; is an annual of ready growth, and much disposed to become a weed.

Unless the flowers are examined when very young, the fresh stamina are not to be seen, but the flowers out of bloom generally retain them in a dried state.

Of foreign grasses there are several described with two stamina, in particular the *Saccharum Thunbergii* and *Koenigii*, and the *Agrostis diandra*, Linn. Syst. Nat. ed. 13. Gmelin. of our English grasses, none such as yet have been observed, besides the present one, and the *Anthoxanthum odoratum*.

## Partes Fructificationis.

Fig. 1. Glumæ Calycinæ.

Fig. 2. Glumæ Corollacæ.

Fig. 3, 4, 5, 6. Gluma Corollacea interior, Stamina, Pistillum, Nectaria, lente auct.

Fig. 7. Pistillum magis auct.

## The Parts of the Fructification.

Fig. 1. The Glumes of the Calyx.

Fig. 2. The Glumes of the Corolla.

Fig. 3, 4, 5, 6. The inner Glume of the Corolla, Stamina, Pistillum, and Nectaries, magnified.

Fig. 7. The Pistillum more enlarged.





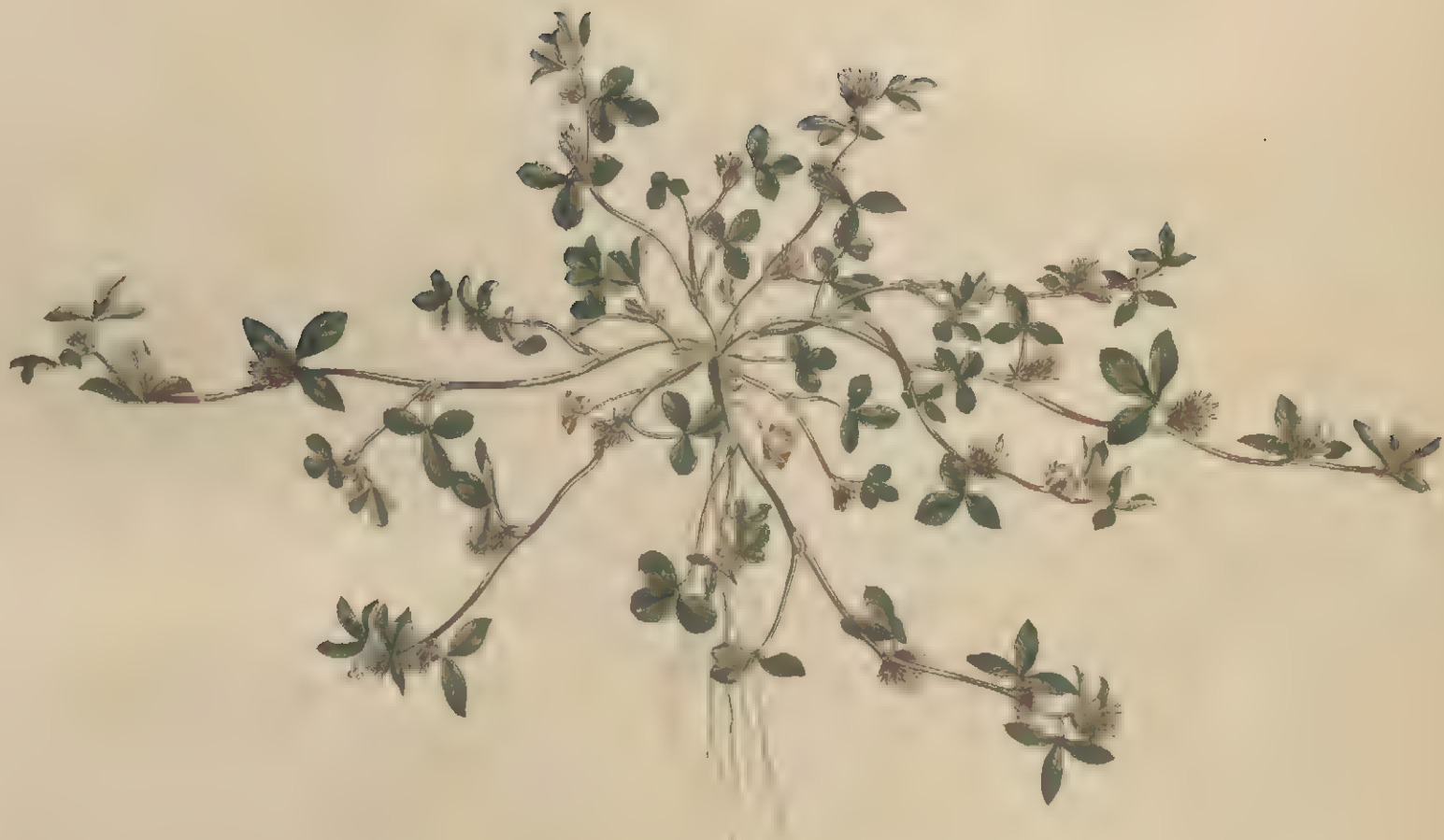
*Bromus diandrus*

*Bromus diandrus*









*Trifolium scabrum*



# TRIFOLIUM SCABRUM. ROUGH TREFOIL.

TRIFOLIUM Linn. Gen. Pl. DIADELPHIA DECANDRIA.

*Flores subcapitati. Capsula vel Legumen vix calyce longius, non dehiscens, deciduum.*

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *scabrum* capitulis sessilibus lateralibus ovatis, calycibus inæqualibus rigidis perfluentibus. Linn. Sp. Pl. ed. 3. p. 1084.

TRIFOLIUM *scabrum* capitulis sessilibus lateralibus ovatis, calycis laciniis inæqualibus rigidis recurvis. Linn. Syst. Vegetab. ed. 14. Murr. Scopoli Fl. Carn. ed. 2. p. 81. Hudf. Fl. Angl. ed. 2. p. 327.

TRIFOLIUM caulibus prostratis, capitulis ovatis, in alis sessilibus, calycibus rigidis, segmentis rectis. Hall. Hist. Helv. n. 371.

TRIFOLIUM flosculis albis, in glomerulis oblongis asperis, cauliculis proxime adnatis. Raii Syn. ed. 3. p. 329. Vaill. Par. t. 33. f. 1.

RADIX annua, fibrosa.

CAULES ex eadem radice plures, procumbentes, triunciales ad semipedales et ultra in planta culta, teretes, flexuosi, pilis longis subappressis vestiti, ramosi.

FOLIA in eadem planta varia, inferiora plerumque obovata, obtusa, superiora ovata, acuta, uti caulis pilosa, mucrone terminata, subdenticulata, venis ad marginem superne præter morem prominentibus.

STIPULÆ nervosæ, acuminatæ, rubro striatæ.

FLORES albi, parvi, angusti, capitati, capitulis ovatis, sessilibus, lateralibus.

CALYX: PERIANTHIUM monophyllum, tubulatum, quinquefidum, villosum, in florescente planta rubedine tinctum, laciniis majusculis, lanceolatis, rectiusculis, duabus superioribus minoribus, peracta florescentia reflexo-patulis, rigidulis, tubus fulcatus, fig. 1.

COROLLA papilionacea; VEXILLUM rectiusculum, obtusum; ALÆ vexillo paulo breviores, obtusæ; CARINA longitudine fere alarum, fig. 2.

STAMINA: FILAMENTA 10, capillaria, alba; ANTHERÆ flavæ.

PISTILLUM: GERMEN oblongum, viride; STYLUS longitudine staminum; STIGMA capitatum.

SEMINA intra calycem nervosum solitaria, lutea, ovalia, nitida.

ROOT annual and fibrous.

STALKS many from the same root, procumbent, from three to six inches in length or more in the cultivated plant, round, crooked, covered with long hairs somewhat pressed to it, branched.

LEAVES various in the same plant, the lower ones for the most part inversely ovate, obtuse, the upper ones ovate, and pointed, hairy like the stalk, terminating in a short point, slightly toothed, veins near the margin on the upper side unusually prominent.

STIPULÆ rib'd, long-pointed, streaked with red.

FLOWERS small, white, narrow, growing in little heads, which are ovate, sessile, and lateral.

CALYX: a PERIANTHIUM of one leaf, tubular, divided into five segments, villous, in the flowering plant coloured with red, the segments somewhat large, lanceolate, nearly straight, the two uppermost ones smallest, when the flowering is over spreading and somewhat bent back, a little rigid, the tube grooved, fig. 1.

COROLLA papilionaceous; STANDARD nearly straight, obtuse; WINGS a little shorter than the standard, obtuse; KEEL the length nearly of the wings, fig. 2.

STAMINA: ten white capillary FILAMENTS; ANTHERÆ yellow.

PISTILLUM: GERMEN oblong, green; STYLE the length of the stamina; STIGMA forming a little head.

SEEDS one within each rib'd calyx, yellow, oval, and glossy.

The *Trifolium scabrum* is a plant found in many parts of Europe, growing in open situations, and particularly affecting chalky, or calcareous soils; we have not observed it nearer London than the neighbourhood of Croydon; it grows abundantly in the Isle of Shepey; is found also between Northfleet and Gravesend, and in various parts of the kingdom.

It takes its name of *scabrum* from the roughness of its heads, a character not altogether peculiar to this species.

It flowers in June and July, and grows readily from seeds.

The Calyces, which are tinged with red when the plant is in flower, become afterwards green.

In the spring of the year, while the plant is young, the foliage is remarkably pretty; the veins on the upper side of the leaf near the margin, which are unusually prominent, being then most conspicuous.

RAY has pointed out the leading features of this plant with his usual acumen; and VAILLANT, in his *Botan. Paris*, has given a good figure of it; the hairiness on the stalk is, however, somewhat too strongly expressed.

It differs from the *Trifolium glomeratum*, already figured (with which it has some affinity) in a variety of particulars; in the *glomeratum* the heads are round, in the *scabrum* they are ovate; in the *glomeratum* the whole plant is smooth, in the *scabrum* it is hairy; in the *glomeratum* the flowers are red, in this they are white; in the *glomeratum* the leaves are strongly toothed, here they are faintly so; there is a considerable difference also in the segments of the calyx, which deserves a particular attention, as the specific description of HALLER and LINNÆUS taken from this part are greatly at variance; the former describes them as straight (*rectis*) observing that they differ in that from those of the *glomeratum*; the latter describes them as bent back (*recurvis*); the fact is, when the plant is in flower, which is the period when it is generally supposed to be described, unless otherwise mentioned, the segments of the calyx are straight, or nearly so; when out of bloom they bend back, as VAILLANT has represented them; in the *glomeratum* they bend back at a more early period, and always are more evidently recurved.

From Mr. ADAMS, of Pembroke, we received seeds of this plant growing on the sea-coast, which he suspected to be different from ours; on culture, it proved the same, varying somewhat in superiority of size and roughness.







# OPHRYS ANTHROPOPHORA. MAN OPHRYS.

OPHRYS *Linn. Gen. Pl.* GYNANDRIA DIANDRIA.

*Nectarium subtus subcarinatum.*

*Raii Syn. Gen.* 26. HERBÆ BULBOSIS AFFINES.

OPHRYS *anthropophora* bulbis subrotundis, scapo folioso, nectarii labio lineari tripartito: medio elongato bifido. *Linn. Syst. Vegetab. ed.* 14. *Murr. p.* 814. *Sp. Pl. ed.* 3. *p.* 1343. *Huds. Fl. Angl. ed.* 2. *p.* 390.

ORCHIS radicibus subrotundis, spica longa, flore inermi, labello perangusto quadrifido. *Hall. Hist. n.* 1264.

ORCHIS *anthropophora oreades.* *Col. Ecph.* 1. 320. *Raii. Syn. ed.* 3. *p.* 379. *Park.* 1348. 7.

ORCHIS flore nudi hominis effigiem representans fœmina. *Baub. Pin.* *p.* 82. *Vaill. Par. p.* 147. *t.* xxxi. *fig.* 19, 20.

RADIX bulbi duo, oblongi, odorati.

SCAPUS pedalis et ultra, foliosus, teres, glaber, fuperne subangulosus.

FOLIA radicalia in florente planta erectiuscula, ovato-oblonga, obtusiuscula, glaberrima, pallide viridia, caulina pauca, angustiora.

FLORES numerosi conferti, luteo virescentes, in spica subpalmari.

BRACTEÆ lanceolato-acuminatæ, virides, germine breviores, *fig.* 1.

COROLLA: PETALA quinque viridia, in galeam conniventia, *fig.* 3, 4. tria exteriora ovata, obtusa, marginibus rufis, duo interiora-linearia: *Nectarii* labellum petalis longius dependens, flavescens, in quibusdam penitus rufescens, tripartitum, laciniis linearibus, lateralibus subdivergentibus, intermedia elongata bifida, *fig.* 5, 6, paulo infra stigma quod profunde excavatum est, duæ sunt glandulæ pellucidæ, nitidæ, valde conspicuæ.

STAMINA: FILAMENTA 2 brevissima; ANTHERÆ flavæ, *fig.* 7.

PISTILLUM: GERMEN teres, viride, tortuosum, *fig.* 2.

ROOT two oblong bulbs, odoriferous.

STALK a foot or more high, leafy, round, smooth, slightly angular above.

LEAVES next the root in the flowering plant nearly upright, ovato-oblong, somewhat obtuse, perfectly smooth, of a pale green colour, those of the stalk few and more narrow.

FLOWERS numerous, growing thickly together, of a yellowish green colour, in a spike about a hand's-breadth in length.

FLORAL-LEAVES lanceolate, tapering to a point, green, shorter than the germen, *fig.* 1.

COROLLA: five PETALS, of a green colour, closing so as to form a hood, *fig.* 3, 4; the three outermost ovate, obtuse, their edges reddish brown, the two innermost linear: the lip of the nectary longer than the petals, hanging down, yellowish, in some wholly reddish brown, divided into three segments, which are linear, the side ones diverging somewhat, the middle one elongated and bifid, *fig.* 5, 6; a little below the stigma, which is deeply hollowed out, are two pellucid shining glands, very conspicuous.

STAMINA: two FILAMENTS very short; ANTHERÆ yellow, *fig.* 7.

PISTILLUM: GERMEN round, green, twisted, *fig.* 2.

The flowers of this species have been considered as bearing some similitude to the effigies of a man, whence its name: the old authors in their figures of it have improved on this resemblance, at the expence of truth. *Vid. PARKINSON, and others.*

It is a plant common to the more southern parts of Europe, and is found chiefly on calcareous soils, with us principally in dry pastures and old chalk pits, in such situations it is one of the most common of the tribe in Kent; we have found it also plentifully in the chalk pits about Leatherhead and elsewhere.

It varies in size, and in the colour of its flowers, from yellow green to bright ferruginous; flowers in May and June, and is more easily cultivated than many others of the same genus.

The root, and indeed the whole plant, emits a strong odour.



*Cypripedium*  
*pubescens*











*Galeopsis versicolor*



# GALEOPSIS VERSICOLOR. PARTICOLOURED GALEOPSIS.

GALEOPSIS Linn. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.

Cor. labium superius subcrenatum, fornicatum; inferius trifidum; faux utrinque dente obtusiusculo, concavo, acuto. Linn. Syst. Nat. ed. Gmel.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

GALEOPSIS *versicolor* foliis ovatis acutis ferratis, tubo floris calyce multo longiore.

GALEOPSIS *Tetralix*. Linn. Sp. Pl. ed. 3. var. β

GALEOPSIS foliis ovato-lanceolatis, ferratis, caule hirsuto flore calycis quadruplo. Hall. Hist. 269.

LAMIUM cannabinum aculeatum flore specioso luteo labiis purpureis. Pluk. Alm. 204. t. 41. f. 4.

CANNABIS spuria flore pallido labro purpureo eleganter. Merr. Pin.

LAMIUM cannabinum folio, flore amplo luteo, labio purpureo. Raii Syn. ed. 3. p. 241. Fair-Flowered Nettle Hemp, or rather Hemp-Leaved Dead-Nettle with a particoloured flower.

RADIX annua.

CAULIS sesquipedalis et ultra, erectus, ramosissimus, obtuse tetragonus, hirsutus, ad genicula incrassatus.

RAMI alterne oppositi.

FOLIA caulina ovata, acuta, ramorum ovato-lanceolata, opposita, petiolata, subacuminata, venosa, superne pilis mollibus hirsutula, inferne nudiuscula, nervo medio venisque exceptis, ferrata, dentibus versus basin sensim minoribus.

PETIOLI hirsuti.

FLORES magni, speciosi, versicolores, sessiles, verticillati, verticillis multifloris, summis subcontiguus.

CALYX: PERIANTHIUM monophyllum, tubulatum, nervosum, hirsutum, quinquedentatum, dentibus longitudine calycis, subæqualibus, aristatis, pungentibus, ore ciliato, ciliis demum intus convergentibus, tubus seminibus maturiscentibus, ventriculus evadit, fig. 1.

COROLLA flava, calyce triplo fere longior, pilis mollibus villosius, tubus cylindraceus, superne amplius, labium superius concavum, externe pilis longis hirsutum, denticulatum, a tubo sulco transversali divisum, labium inferius trifidum, lobis lateralibus ex inferiore parte albidis, intermedio emarginato purpureo, albo marginato, ad basin saturate flavo venis rubris pulchre reticulato hic utrinque exferuntur cornicula duo obtusa, fig. 2.

STAMINA: FILAMENTA quatuor, alba, quorum duo breviora; ANTHERÆ didymæ, primo rotundata, demum acutæ, ciliatæ, fig. 3.

PISTILLUM: GERMINA quatuor; STYLUS subulatus; STIGMA bifidum, fig. 4.

SEMINA quatuor, in fundo calycis, obtuse trigona, apice rotundata, nigricantia, fig. 5.

ROOT annual.

STALK a foot and a half high or more, upright, very much branched, obtusely four-cornered, covered with strong rough hairs, thickened at the joints.

BRANCHES alternately opposite.

LEAVES of the stalk ovate and pointed, of the branches ovato-lanceolate, standing on foot-stalks, somewhat long-pointed, veiny, above slightly hirsute from being covered with soft hairs, beneath almost smooth excepting the midrib and veins, ferrated, teeth towards the base gradually smallest.

LEAF-STALKS hirsute.

FLOWERS large, showy, particoloured, sessile, growing in whorls, whorls many-flowered, the uppermost nearly contiguous.

CALYX: a PERIANTHIUM of one leaf, tubular, ribbed, hirsute, five-toothed, teeth the length of the calyx, nearly equal, ending in pungent awns, the mouth bearded, the hairs of which finally converge inwardly to a point, the tube as the seeds ripen bellies out, fig. 1.

COROLLA yellow, nearly thrice the length of the calyx, covered with soft hairs; the tube cylindrical, enlarged above, the upper lip concave, beset on the outside with long hairs, toothed on the edge, divided from the tube by a transverse groove, the lower lip divided into three segments, the side lobes on the lower part nearly white, the middle lobe purple edged with white, its base of a deep yellow colour beautifully marked with red veins in the form of net-work; here rise two small blunt horns, one on each side, fig. 2.

STAMINA: four FILAMENTS of a white colour, two long, two short; ANTHERÆ double, first nearly round, finally pointed and edged with hairs, fig. 3.

PISTILLUM: GERMINA four; STYLE tapering; STIGMA bifid, fig. 4.

SEEDS four in the bottom of the calyx, bluntly three-cornered, roundish at top, and nearly black, fig. 5.

There undoubtedly is in most points a great affinity betwixt this plant and the *Galeopsis Tetralix*; but as the characters in which they differ are as constant as they are striking, we have thought it entitled to the rank of a species, more especially as many of the old writers have been of the same opinion, and several of the moderns.

In its habit it is shorter and more bushy than the *Tetralix*, its leaves are broader, and its flowers differ not only in colour but in size; there are many parts of the country also in which the one is found abundantly, the other not at all; and lastly, it comes up from seeds every year invariably the same.

The beauty of its flowers is sufficient to entitle it to a place in the Flower-Garden; its flowering period is not of very long duration: in corn-fields, where it is often found too abundantly, like the *Tetralix* it is a very troublesome weed, the rough hairs with which the plant is covered proving highly injurious to the hands and arms of the reapers.

In many parts of Yorkshire we have seen this plant growing very plentifully among the corn; the fields about London are exempt from it.

It flowers in July and ripens its seeds in August; as these are produced in abundance and vegetate freely, such as wish to have the plant in their possession may succeed in its culture without any difficulty.







# LATHYRUS NISSOLIA. CRIMSON LATHYRUS, or GRASS VETCH.

LATHYRUS. *Linn. Gen. Pl.* DIADELPHIA DECANDRIA.

*Stylus* planus, supra villosus, superne latior. *Cal.* laciniae superiores duæ breviores.

*Raii Syn. Gen.* 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LATHYRUS *Nissolia* pedunculis unifloris, foliis simplicibus, stipulis subulatis. *Linn. Sp. Pl.* v. 2. ed. 3. p. 1029. *Syst. Vegetab.* ed. 14. *Murr.* p. 662.

LATHYRUS pedunculis unifloris, foliis gramineis, stipulis minimis. *Hall. Hist.* n. 441.

LATHYRUS sylvestris minor. *Baub. Pin.* 344.

CATANANCHE leguminosa quorundam. *J. B. II.* 309.

VICIA folio gramineo filiqua porrectissima. *Merr.* p.

LATHYRUS angustifolius erectus, folio singulati, sine capreolis Nissoli. *Magn. Hort.* 112. t. 112.

NISSOLIA parva flore purpureo. *Buxb. cent.* 3. p. 84. t. 45. f. 1.

ERVUM sylvestre. *Dodon. Pempt.* p. 529. *Ger. emac.* Crimson grass Fench. p. 1249.

ERVUM sylvestre five Catananche. Wild grass leafed Orobus. *Park. Th.* p. 1079.

RADIX annua, fibrosa.

CAULIS pedalis, et ultra, suberectus, simplex, raro ramulosus, angulatus, glaberrimus.

FOLIA alterna, erecto patula, sessilia, subdecurrentia, simplicia, graminea, lanceolata, linearia, multinervia, inferne glaberrima, superne glaucescenti-viridia, marginibus sæpe erosis.

STIPULÆ binæ, exilissimæ, subulatae.

FLORES vivide purpurei, in pedunculis longis, subsolitarii, cernui.

PEDUNCULI axillares, solitarii, uniflori, rarissime biflori, erecti, subangulati, læves, superne prope florem bractea subulata instructa, inter florem et bracteam teretior evadit et pubescit.

CALYX: PERIANTHIUM monophyllum tubulatum, quinquefidum, quinquenerve, laciniis lanceolatis acutis, inferiore longiore, ad lentem hirsutulis.

COROLLA papilionacea, vivide purpurea; *Vexillum* antice parum reflexum, dorso compressum; *Alæ* subovatae, vexillo breviores, concolores; *Carina* semiorbiculata, tumida, dilute rubens.

STAMINA: FILAMENTA diadelphe, simplex et novemfidum, assurgentia; ANTHERÆ subrotundæ, fig. 1, 2.

PISTILLUM: GERME compressum, oblongum, lineare; STYLUS planus; STIGMA antice villosum, fig. 3.

PERICARPIUM: Legumen lineare, bipollicare, pendulum.

ROOT annual and fibrous.

STALK a foot or more in height, nearly upright, unbranched for the most part, angular, very smooth.

LEAVES alternate, betwixt upright and spreading, sessile, somewhat decurrent, simple, grassy, betwixt lanceolate and linear, many-ribbed, below perfectly smooth, above of a somewhat glaucous green colour, the edges often bitten.

STIPULÆ two, extremely small, and awl-shaped.

FLOWERS of a brilliant purple colour, fitting singly on long footstalks, drooping.

PEDUNCLES axillary, solitary, one-flowered, very rarely two-flowered, upright, somewhat angular, smooth, on the upper part near the flower furnished with an awl-shaped bractea, betwixt the flower and the bractea it becomes rounder and slightly downy.

CALYX: a PERIANTHIUM of one leaf, tubular, five-ribbed, mouth divided into five segments, which are lanceolate, sharp-pointed, the lowermost longest, slightly hirsute if magnified.

COROLLA papilionaceous, bright purple or crimson; the *Standard* somewhat reflexed, and compressed on the back; *Wings* somewhat ovate, shorter than the standard, of the same colour; *Keel* semiorbiculate, tumid, of a faint-red colour.

STAMINA: FILAMENTS in two bodies, one and nine, rising upward; ANTHERÆ roundish, fig. 1, 2.

PISTILLUM: GERME flattened, oblong, linear; STYLE flat; STIGMA villous on the fore part, fig. 3.

SEED-VESSEL: a linear *Pod*, about two inches long, and pendulous.

It is in pastures and among the grassy herbage on the confines of woods and hedges that this species of Lathyrus, distinguished for its grass-like foliage and bright crimson flowers, is chiefly found; in such situations it is not very unfrequent in the neighbourhood of London: being an annual, its place of growth is liable to great variation, and it is with great difficulty found, unless when in flower, which it usually is about the latter end of June;—in certain parts of the Isle of Shepey, we have observed this plant stronger and in greater abundance than elsewhere.

It is sometimes found with white blossoms; *Dodonæus* describes his flowers as yellowish, and his figure, which is not equal to most of his others, represents two blossoms on a peduncle.

In its wild state it is more beautiful than when cultivated, its blossoms being much more brilliant; they appear also to more advantage among the wild grassy herbage, where they have few or no formidable rivals: the period of its flowering is of very short duration, and is a sufficient objection to its being cultivated for ornament.

It is scarcely possible to gather a wild specimen of this plant, which has not some of its leaves bitten on the edges; we have found this erosion to be occasioned by a small oblong *Curculio*, of a pale-brown colour, very destructive on certain lands, in the spring of the year, to the foliage of leguminous plants in general; in some springs, we have seen this insect check the growth and greatly injure so large a plant as the common pea of the kitchen garden, and we have little doubt but whole Clover crops are destroyed by it just as they come into leaf, and the Seedsman, perhaps, blamed for the badness of his seed;—we are not acquainted with the history of this insect, but recommend it to the serious attention of the agriculturist.





*Lathyrus. Sepulchralis*









*Orchis Bifolia*



# ORCHIS BIFOLIA. BUTTERFLY ORCHIS.

ORCHIS. *Linn. Gen. Pl.* GYNANDRIA DIANDRIA.

*Nectarium cornu referens pone florem. Cor. ringens.*

*Raii Syn. Gen.* 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

ORCHIS *bifolia* nectarii labio lanceolato integerrimo, cornu longissimo, petalis patentibus. *Linn. Syst. Vegetab. ed. 14. Murr. p. 808. Sp. Pl. ed. 3. p. 1331. Scop. Carn. ed. 2. n. 1102. Hudf. Fl. Angl. ed. 2. p. 382. Fl. Dan. t. 235.*

ORCHIS radicibus oblongis, labello lineari. *Hall. Hist. n. 1285. t. 35.*

ORCHIS alba bifolia minor calcari oblongo. *Baub. Pin. 83.*

ORCHIS sphegodes f. Testiculus vulpinus primus. *Park. 1351. 7.*

HERMAPHRODITICA. Bees Satyrion. *Ger. Herb. p. 162. fig. 1. emac. p. 211. f. 1.*

TESTICULUS pycodes. Gnat Satyrion. *Ger. emac. p. 211. f. 2.*

ORCHIS hermaphroditica bifolia. *J. B. II. 772. Raii Syn. ed. 3. p. 380. Butterfly Satyrion.*

RADIX: bulbi duo, majusculi, ovati, inferne acuminati.

ROOT: two bulbs, somewhat large, ovate, terminating below in long points.

CAULIS pedalis, et ultra, foliosus, lævis, hexagonus, nervis tribus e singulo folio decurrentibus.

STALK a foot or more in height, leafy, smooth, six-angled, three ribs running down from each leaf.

FOLIA radicalia plerumque duo, opposita, ovalia, glabra, nervosa, obtusiuscula; caulina lanceolata, sessilia.

LEAVES of the root usually two, opposite, ovate, smooth, ribbed, somewhat blunt; those of the stalk lanceolate and sessile.

FLORES numerosi, ex albido-lutescentes, odorati, in spica longa laxiuscula dispositi.

FLOWERS numerous, of a yellowish-white colour, sweet-scented, disposed in a long and somewhat loose spike.

BRACTEÆ longitudine germinis, lanceolatae, foliis caulinis superioribus simillimæ.

FLORAL-LEAVES the length of the germen, lanceolate, very like the uppermost leaves of the stalk.

COROLLA: PETALA quinque, tria superiora conniventia, suprema cordata, obtusa, incumbens, planiuscula, marginibus reversis, duo lateralia lanceolata, sibi invicem versus curvata, truncata, duo inferiora majora, alarum instar expansa, ovata, acutiuscula; Labellum dependens, alis longior, sublineare, antice convexum, postice concavum, obtusum, inferne virescens, fig. 1. Calcar germini duplo fere longior, melliferum, diaphanum, tenue, versus apicem virescens, compressiusculum et paulo dilatatum.

COROLLA: five PETALS, the three uppermost closing together, the uppermost one cordate, obtuse, incumbent, flattish, the edges reversed, the two side ones lanceolate, bent towards each other, truncated, the two lowermost larger, expanded like wings, ovate, and somewhat pointed; Lip dependent, longer than the wings, somewhat linear, convex on the fore part, concave behind, obtuse, on the lower part greenish, fig. 1. Spur almost twice the length of the germen, honey-bearing, transparent, slender, towards the tip greenish, flattened a little, and somewhat spreading.

STAMINA: FILAMENTA duo, remota; ANTHERÆ flavescens, fig. 2.

STAMINA: two FILAMENTS, situated remotely from each other; ANTHERÆ yellowish, fig. 2.

PISTILLUM: GERMEN longitudine bractæ, tenue, tortuosum, profunde striatum.

PISTILLUM: GERMEN the length of the bractea, slender, twisted, deeply striated.

This species of Orchis has obtained the name of *bifolia*, on account of its radical leaves being usually two in number, and placed opposite to each other; but this character is not perfectly to be relied on, as three are frequently met with, nor are those radical leaves so strictly opposite to each other as some authors have represented them, or as they are in the *Ophrys ovata*; the English name of *Butterfly Orchis* is scarcely warranted by the appearance of the flowers.

If not so common an Orchis as some, it is much more so than others, being found generally throughout the kingdom in woods, pastures, and heaths, especially in soils somewhat stiff and moist; in the first of these situations it is by far the most luxuriant, in the latter it is frequently so dwarfish as to be regarded as a variety; the lip of the nectary is also found to vary considerably in length in different specimens.

It is obviously distinguished from others of the genus by the colour of its blossoms, the extreme length of its spur, the delicious fragrance of its flowers, diffused most in the morning and evening, and which may vie with that of the honeysuckle; but, above all, by the unusual structure of its flowers: below the stigma (remarkably well defined in this species) there is a circular foramen, fig. 2. between the cavities containing the stamina, just above the stigma, is a very conspicuous ridge, fig. 3. the cases containing the stamina, are placed widely distant from each other, and soon change to a brownish hue; the stamina are very loosely placed within them, and drawn out with the slightest touch; the antheræ are club-shaped, and divided as in most others; the gland at the base of the filament is of a circular form, with a cavity on its inner side, fig. 7. and a kind of joint-like projection on its outer part, fig. 6. difficult to describe;—taken altogether, this part is wonderfully curious, and deserving of attention.

This species is not so difficult of culture as many others; and, as its roots are large, it appears to be as well calculated for the formation of salep as any other.







# CHENOPODIUM RUBRUM. SMALL-SEEDED GOOSE-FOOT.

- CHENOPODIUM. Linn. Gen. Pl. PENTANDRIA DIGYNIA.  
Cal. 5-fidus, 5-coflatus. Cor. o. Sem. 1. lenticulare superum  
horizontale calice conniventi tectum.
- CHENOPODIUM. Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALO  
POTIUS).
- CHENOPODIUM *rubrum* foliis cordato-triangularibus obtusiusculis dentatis, racemis erectis com-  
positis subfoliosis caule brevioribus. Linn. Syff. Nat. ed. 13. Gmel. p. 448.  
Syff. Vegetab. ed. 14. Murr. p. 261. Sp. Pl. ed. 3. p. 318. Fl. Succ. ed. 2. p. 78.  
Lightfoot v. 1. p. 148. Hudf. Angl. ed. 2. p. 105.  
Hall. Hist. n. 1588.
- CHENOPODIUM foliis glabris nitentibus, acute circumdentatis. Hall. Hist. n. 1588.
- ATRIPLEX sylv. latifolia. Bauh. Pin. 119.
- ATRIPLEX sylvestris III. Matth. p. 462.
- ATRIPLEX sylvestris latifolia five Pes Anserinus. Goose-Foot. Ger. emac. p. 328. f. 1. Park. p.  
749. f. 8.
- BLITUM Pes Anserinus dictum. Goose-Foot or Sow-Bane. Raii Syn. ed. 3. p. 154.
- BLITO Pes Anserinus dicto similis. Raii Syn. ed. 3. p. 154.
- BLITUM Morifono Atriplex procumbens folio sinuato lucido crasso dictum. Raii Syn. ed. 3. p. 154.
- Regarded by Mr. HUDSON as a variety of *murale*.

- RADIX annua, fibrosa.
- CAULIS pedalis, bipedalis, et ultra, plerumque crectus, inæqualiter striatus, lævis, viridis, purpurascens etiam ruberrimus, nonnunquam simplex, sæpius vero ramosus, ramis inferioribus patentibus, et haud infrequenter decumbentibus.
- FOLIA petiolata, subcarnosa, glabra, nuda, subtus venosa, in petiolum decurrentia, sinuata, dentata, dentibus utrinque a basin secundis cæteris plerumque multo majoribus, omnibus acutiusculis et sæpe rubro marginatis.
- PETIOLI longi, at foliis ipsis breviores.
- FLORES minimi, spicati, virides, purpurascences, aut vivide purpurei, in glomerulis sessilibus subrotundis dense collocati, sub singulo glomerulo foliolum glomerulo longius, hinc spicæ foliosæ evadunt, glomeruli ipsi etiam foliosi nonnunquam observantur.
- CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, patentibus, margine membranaceis, demum clausis, semen includentibus, fig. 1.
- COROLLA nulla.
- STAMINA: FILAMENTA quinque, alba, calyce paulo longiora; ANTHERÆ flavæ, fig. 2.
- PISTILLUM: GERMEN subovatum, compressum; STYLUS brevissimus; STIGMATA duo, villosa, patentia, fig. 3.
- SEMEN minimum, lentiforme, nitidum, saturate fuscum, calyce non penitus tectum, fig. 4.
- ROOT annual and fibrous.
- STALK a foot, two feet or more in height, generally upright, unevenly striated, smooth, green, purplish, or even very red, sometimes simple, but most commonly branched, the lower branches spreading and not unfrequently decumbent.
- LEAVES standing on footstalks, somewhat fleshy, smooth, naked, veiny on the under side, running down the foot-stalk, sinuated, toothed, the second teeth on each side from the base usually much larger than the others, all of them somewhat pointed, and often edged with red.
- LEAF-STALKS long, but shorter than the leaves themselves.
- FLOWERS very minute, spiked, green, purplish, or very bright purple, placed close together, in small roundish sessile balls, under each little ball or cluster is placed a small leaf, longer than the ball itself, which gives to the spikes a leafy appearance, the little clusters themselves are sometimes observed leafy.
- CALYX: a PERIANTHIUM of five leaves, which are ovate, concave, spreading, membranous on the edge, finally closing and containing the seed, fig. 1.
- COROLLA none.
- STAMINA: five white FILAMENTS a little longer than the calyx; ANTHERÆ yellow, fig. 2.
- PISTILLUM: GERMEN somewhat ovate, flattened, STYLE very short; STIGMATA two, villous, and spreading, fig. 3.
- SEED very minute, lens-shaped, shining, of a deep brown colour, not wholly covered by the calyx, fig. 4.

We have often had occasion to remark, that the more common plants, which grow as it were under our feet, are infinitely more difficult to ascertain than those which are rare; this arises in some from a deficiency perhaps of specific character, but more from that diversity of appearance which they assume in consequence of growing in soils and situations widely different: we have always found students, and even those well versed in plants, at a loss in making out the different species of *Chenopodium*, and more especially the present species: and we suspect that LINNÆUS, in his account of it, has in some degree contributed rather to obscure than elucidate it; in his *Flor. Succ. ed. 2.* in describing it, he says, *caules decumbentes et terræ appressæ*; though this may be true of it when growing in certain situations, as in *plateis Stockholmiæ*, it is not generally so; on dunghills, which are frequently covered with it alone, and in waste places that have been overflowed in the winter, situations which this plant principally and very generally affects with us; the main stem is for the most part perfectly upright, as much so as that of the *urbicum*; when it grows singly in soils not very luxuriant, and especially at the close of the year, not only the lower branches are often procumbent, but the whole plant is so, and often in a dwarf state; indeed one can scarcely imagine two plants more different than the one starving in the situation last described, and the other flourishing on a rich dunghill, or a moist ditch originating near it, where it frequently attains the height of three feet.

There is another circumstance which has contributed also to render a knowledge of this plant difficult, and that has arisen from its colour: Botanists have not been aware that there are two principal varieties of it, one of a fine purple, which extends sometimes to the whole plant, and is so brilliant as to render it even ornamental, the other pale green without the least tinge of red; and these two may generally be found growing near each other.

We have long since discovered the means of distinguishing with certainty this plant, under all its appearances, from the *urbicum*, with which it has the greatest affinity (Mr. HUDSON, indeed, suspected that these two plants were varieties only of each other) and that by the difference in the size of their respective seeds; those of the *rubrum* are very minute, not much larger than the largest grains of common writing sand, and those of the *urbicum* are nearly the size of rape-seed.

To see the flowers of this plant, we must examine it when very young in August and September.

Cattle of no kind shew any disposition to eat this herb, which is, however, reported to be noxious to swine, perhaps, on no good authority: the seeds afford abundant food for small birds; agriculturally considered, it must be regarded as a weed, though not so generally troublesome as some of the others of the genus.





*Chenopodium rubrum*









*Premula*  
*juncosa*



# PRIMULA FARINOSA. BIRD'S-EYE PRIMULA.

PRIMULA. Linn. Gen. Pl. PENTANDRIA MONOGYNIA.

*Involucrum* umbellulæ. Cor. tubus cylindricus, ore patulo. Caps. 1-locularis, teres, dentibus 10-dehiscens, polysperma.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

PRIMULA *farinosa* foliis crenatis glabris, florum limbo plano. Linn. Syst. Vegetab. ed. 14. Murr. p. 192. Sp. Pl. ed. 3. p. 205. Scop. Carn. ed. 2. p. 133. Hudf. Fl. Angl. ed. 2. p. 84. Lightfoot Scot. v. 1. p. 137.

ARETIA foliis glabris, ellipticis, rugosis, subtus farinosis, floribus umbellatis. Hall. Hist. 625.

VERBASCULUM umbellatum alpinum minus. Baub. Pin. 247. Raii Syn. ed. 3. p. 285. Bird's-eye.

PRIMULA veris flore rubro et alb. Red and white Bird's-eye. Ger. Herb. 639. f. 1, 2. emac. 783. f. 1, 2.

PARALYSIS minor flore rubro et albo. Park. Parad. p. 246. Pl. 243. 10. Theat. p. 536. 1, 2.

RADIX perennis, subpræmorsa, fibrosissima, fibris longis, perpendicularibus; odorata.	ROOT perennial, somewhat flumped, very fibrous, fibres long, perpendicular; sweet-scented.
FOLIA oblongo-obovata, crenata, glabra, crassiuscula, ad margines hinc inde reflexa, subtus farinosa, venosa.	LEAVES oblong-obovate, crenated, smooth, thickish, here and there turned back on the edges, mealy on the under side and veiny.
SCAPUS palmaris ad spithamæum, erectus, teres, nudus, pallide virens, farinosus.	STALK a hand's breadth or span in height, upright, round, naked, of a pale green colour and mealy.
FLORES in umbella erecta, purpurei, suaveolentes.	FLOWERS purple, sweet-scented, growing in an upright umbel.
INVOLUCRUM polyphyllum, foliolum / bractea subulata ad singulum pedunculum.	INVOLUCRUM many-leav'd, each leaf or bractea awl-shaped and placed at the base of each peduncle.
CALYX: PERIANTHIUM monophyllum, persistens, obovatum, pentagonum, quinquefidum, laciniis erectis, obtusiusculis, apice subconniventibus, obscure viridibus, farinosis, fig. 1, 2.	CALYX: a PERIANTHIUM of one leaf, continuing, obovate, five-corner'd, divided into five segments, which are upright, a little blunt, closing together somewhat at their tips, of a dull green colour and mealy, fig. 1, 2.
COROLLA: monopetala, tubulosa; TUBUS cylindraceus, calice longior, in medio coarctatus, terminatus collo subventricoso, lutescente, glabro, fauce pervia, lutea coronata; LIMBUS 5-partitus, patentissimus, fig. 3.	COROLLA: monopetalous, tubular; TUBE cylindrical, longer than the calyx, contracted in the middle, terminating in a neck somewhat enlarged, yellowish, smooth, crowned with a mouth which is open and yellow; LIMB divided into five segments spreading very flat, fig. 3.
STAMINA: FILAMENTA quinque, brevissima, intra collum tubi corollæ; ANTHERÆ erectæ, oblongæ, subtrigonæ, conniventes, flavæ, fig. 4.	STAMINA: five FILAMENTS very short, within the neck of the tube of the corolla; ANTHERÆ upright, oblong, somewhat three-cornered, closing together and yellow, fig. 4.
PISTILLUM: GERMEN superum, subglobosum, glabrum; STYLUS filiformis, longitudine tubi; STIGMA globosum, fig. 5.	PISTILLUM: GERMEN above, somewhat globular, smooth; STYLE filiform, the length of the tube; STIGMA globular, fig. 5.
PERICARPIUM: CAPSULA cylindracea, calyce duplo longior, fusca, unilocularis, ore quinquedentato, fig. 6.	SEED-VESSEL: a cylindrical CAPSULE, twice the length of the calyx, brown, of one cavity, the mouth five-toothed, fig. 6.
SEMINA plurima, minima, fusca, fig. 7.	SEEDS numerous, very minute, and brown, fig. 7.

The species of Primula here figured, called *farinosa*, from the mealiness chiefly observable on the plant in the spring of the year, a native of the more northern parts of Europe, is found abundantly in certain districts of Yorkshire, and other northern counties of Great-Britain, chiefly in bogs and boggy meadows, in some of which it occurs in such profusion as to empurple them with its blossoms.

In its native soil, it flowers in July and August; in our more southern gardens, a month or six weeks earlier.

The flowers vary with different shades of purple, and they have been found entirely white; in point of size, the plant is also subject to much variation; in a bog in Skirith-Wood, near Ingleton, we observed specimens of it a foot and a half high: in the cultivated plant, we have sometimes seen it have a tendency to be viviparous, to produce one or more tufts of leaves among the flowers of the umbel; in its wild state it seeds readily, and frequently when cultivated; towards the end of September its outer leaves fade, and the heart of the plant forms itself into a knob, or button, a kind of hybernaculum in which it remains during the winter; in the spring it expands, and the leaves then appear wholly white and mealy; the corolla continues to envelope the germen till it has almost arrived at maturity, forming a sort of calyptra to it; the capsule ultimately forms a mouth with five teeth, it should have ten to answer strictly to the character of a Primula.

In the neighbourhood of London cultivators seldom blow this plant in perfection, and rarely keep it for any length of time; and this justifies PARKINSON'S observation, who long since remarked, that it "would hardly abide any culture;" that it should suffer, as it commonly does, from a scanty supply of water in the summer, is not to be wondered at, but that it should be destroyed by too much wet in the winter, few would apprehend, *a priori*; such, however, is the fact, as I have too frequently experienced; one winter, indeed, I lost my whole stock from this cause, and renewed it by the kindness of my friend Mrs. CHORLEY, of Tottenham, niece of the late Dr. FOTHERGILL, who kept the few plants she had in pots, dry, by laying them on their sides, as is sometimes practised with Auriculas.

To attempt raising this plant from seed is scarcely worth the while, since a strong root of it may be divided so as to form a great number of others; the best time for doing this is in the spring, soon after its leaves have expanded; each offset should be placed in a separate pot, filled with two parts stitish loam, and one part bog-earth of the light sandy kind, watered and set in the shade, under a north wall or paling, but not under trees, there they should be kept during summer in pans of water; in the autumn, as the wet season comes on, they should be taken out of the pans and placed, during the winter, under a common cucumber frame, exactly for the purpose of keeping them from immoderate wet; the next year (if not the same) these plants will blow strong; and thus they should be treated every year, for Primulas in general require to have their roots frequently parted.







# FUMARIA CAPREOLATA. RAMPING FUMITORY.

FUMARIA. *Linn. Gen. Pl.* DIADELPHIA HEXANDRIA.

*Cal.* diphyllus. *Cor.* ringens. *Filamenta* 2-membranacea, *lingula*  
*Antheris* 3.

*Raii Syn. Gen.* HERBÆ FLORE PERFECTO SIMPLICI, SEMINIBUS NUDIS SOLITARIIS  
SEU AD SINGULOS FLORES SINGULIS.

FUMARIA *capreolata* pericarpis monospermis racemosis, foliis scandentibus subcirrhosis. *Linn. Syst. Vegetab. ed. 14. Murr. p. 637. Sp. Pl. ed. 3. p. 985. Lightf. Scot. v. 1. p. 380.*

FUMARIA *officinalis* var. *Huds. Fl. Angl. ed. 2. p. 309.*

FUMARIA viticulis et capreolis plantis vicinis adhærens. *Baub. Pin. p. 143.*

FUMARIA major scandens flore pallidiore. *Raii Syn. ed. 3. p. 204.* The greater ramping Fumitory.

FUMARIA flore albo. White flowred Fumitorie. *Ger. Herb. p. 927. f. 2.* described with tendrils, but not figured with any.

In the wonderful œconomy of nature, it is found requisite for the well-being of certain plants, that they should grow to a considerable height above the surface of the earth; by far the greater part acquire this height by the strength and firmness of their stems, which are capable of resisting the fury of the elements\*; others, less robust, acquire the necessary height, for the most part, in two ways; either the stem instinctively turns round the neighbouring plants, as in the Hop and Bindweed, or they throw out tendrils, which have the faculty of curling round whatever objects they come in contact with, as in the Vine, Cucumber, and many of the leguminous plants:—in the present instance, there is a deviation from both these modes, the stalk does not turn as in the Hop, nor does it throw out tendrils as in the Vine; but the leaves themselves perform the office of tendrils, that is, they curl round whatever objects they touch.

Though the present plant, in the colour and form of its leaves and flowers, bears a considerable resemblance to the common Fumitory, yet its greater disposition to climb did not escape the observation of the older Botanists, who regarded it as a species on that account:—by what particular means it acquired its superior power of ascension, or in what other respects it differed from the common Fumitory, they did not inquire into as they ought, or they would not have spoken of its distinct *viticuli* and *capreoli*; it may be doubted even whether LINNÆUS's term of *subcirrhosis*, together with his description of the leaves in his *Spec. Plant. (foliola extrema in cirrhos transeunt)* may not tend to mislead the student; for though the leaves, or rather their foot-stalks, perform the office of tendrils, their form (as far as we have observed) undergoes no alteration.

Some modern writers have expressed their doubts, as to this plant's being a species; if it differed only in the particular œconomy of its leaves, we should doubt it also; for we have observed the common Fumitory, when growing luxuriantly, shew a similar tendency in its leaves to lay hold of contiguous objects; and many, we believe, have taken the plant in this luxuriant state, and with this tendency, for the *capreolata*; no wonder they should perceive no difference.

We have long been convinced that the two plants are perfectly distinct; the true *capreolata* is much less common, and a more local plant than the *officinalis*; its foliage has little of the glaucous appearance in it, but inclines more to yellowish-green, and, taking two plants of the same age and of the same degree of luxuriance, it is much broader and has a much greater tendency to perform the office of tendrils, and, in consequence of this greater disposition to climb, the plant will ascend to a much greater height than the *officinalis*, and will frequently surmount a low hedge; the difference in the flowers is equally if not more obvious, and this difference is, perhaps, in no respect more striking, than in the number of the flowers which form the spike; in the *capreolata* they are much fewer than in the *officinalis*, being usually from six to twelve, while in the *officinalis* they are generally twice as numerous; the colour of the flowers exhibits a difference which strikes the eye, perhaps, as soon as any other; in the *officinalis*, the main body of the flower is bright red, in the *capreolata* it is flesh colour; hence the deep red at the extremity of the flowers in the *capreolata* forms a greater contrast in this species than in the other:—to these distinctions, we may add the superior size of the flowers of the *capreolata*, which are at least one third larger; the mouth of the flower in the *officinalis* (taking two flowers of the same age) is more open, that is the tip of the carina adheres more closely to the other parts; in the *capreolata*, this is a good character and constant; in the *officinalis*, the peduncle is inserted more into the middle of the flower; the calyx in the *capreolata* is proportionably broader, and its upper edge rises higher on the flower, *vid. fig. 1, 2*, where a flower of each is represented, that they may be compared together.

We have already observed, that this species is more local than the *officinalis*; it is certainly much more rare in the neighbourhood of London: we remember to have seen it sparingly near Edmonton, and in a few other places; more plentifully about Barnstaple, in Devonshire, and elsewhere.

It flowers from June to September, and produces plenty of seed, which comes up spontaneously, and in such abundance as to make it a kind of weed.

\* "To loftier forms are rougher tasks assign'd,

"The sheltering oak resists the stormy wind."





*Fumaria capreolata*









*Saxifraga Thurelletii*



# SAXIFRAGA HIRCULUS. MARSH SAXIFRAGE.

SAXIFRAGA. *Linn. Gen. Pl.* DECANDRIA DIGYNIA.

*Cal.* 5-partitus. *Cor.* 5-petala. *Caps.* 2-rostris, 1-locularis polysperma.

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAXIFRAGA *Hirculus* foliis caulinis lanceolatis alternis nudis inermibus, caule erecto. *Linn. Syst. Vegetab. ed. 14. Murr. p. 413. Sp. Pl. ed. 3. p. 576. Fl. Suec. ed. 2. n. 370. Mantiss. p. 383. Fl. Dan. t. 200.*

SAXIFRAGA *Hirculus* foliis alternis lanceolatis integerrimis acutis nudis, caule adscendente folioso. *Huds. Fl. Angl. ed. 2. p. 181.*

SAXIFRAGA foliis ellipticis caule unifloro. *Hall. Hist. n. 972.*

SAXIFRAGIA petalis latissimis luteis lineatis. *Hall. Hist. t. xi.*

GEUM angustifolium autumnale, flore luteo guttato. *J. R. H. 252. Raii. Syn. ed. 3. p. 355.*

SEDUM palustre luteum bicorne nardi celticæ foliis. *Mor. Hist. Ox. III. 477. f. 12. t. 8. f. 5.*

HIRCULUS frificus Dortmanni. *Clus. Cur. post. 5.*

CHAMÆCISTUS frificus foliis Nardi celticæ. *Baub. Pin. p. 466.*

CHAMÆCISTUS Frificus. Frisian Dwarf Cistus. *Ger. Em. p. 1284. fig. 8. Park. Tb. p. 656. f. 3.*

RADIX perennis, fibrosa.

ROOT perennial, and fibrous.

CAULIS subspithamæus, erectiusculus, simplex, foliosus, teres, sub-biflorus, pilis raris flexuosis fuscescentibus vestitus.

STALK about a span high, nearly upright, simple, leafy, round, supporting usually about two flowers covered with brownish hairs, crooked, and few in number.

SURCULI radicales foliosi, procumbentes, radículas prominentes.

SHOOTS from the root leafy, procumbent, putting out fibres.

FOLIA sparsa, inferne magis conferta, suberecta, sessilia, ad basin tuberculo instructa, lineari-lanceolata, obtusiuscula, lævia, integerrima, crassiuscula, pilis raris caulinis simillimis ciliata.

LEAVES growing irregularly, more crowded below, nearly upright, sessile, furnished with a small tubercle at the base, betwixt linear and lanceolate, somewhat blunt, smooth, perfectly entire, thickish, edged with hairs like those on the stalk.

FLORES flavi, majusculi, priusquam aperiuntur nudentes.

FLOWERS yellow, large, nodding before they open.

CALYX: PERIANTHIUM 5-phyllum, foliolis ovato-oblongis, obtusis, pilis caulium similibus ciliatis, concaviusculis, demum reflexis.

CALYX: a PERIANTHIUM of five leaves, which are ovato-oblong, obtuse, edged with hairs like those on the stalk, somewhat concave, finally reflexed.

COROLLA: PETALA quinque obovata, flava, calyce multo longiora, subnervosa, gibberibus duobus acuminatis ad basin insignita, punctisque numerosis aurantiacis ad medium usque maculata.

COROLLA: five PETALS obovate, yellow, much longer than the calyx, somewhat ribbed, each characterised by two pointed tubercles at its base, and marked with numerous orange-coloured spots from the middle downwards.

STAMINA: FILAMENTA decem, subulata, flava, erecta, alterna breviora, persistentia; ANTHERÆ flavæ, compressæ, biloculares, loculis demum inferne divergentibus.

STAMINA: ten FILAMENTS, tapering, yellow, upright, the alternate ones shortest, continuing; ANTHERÆ yellow, flattened, bilocular, the cavities finally diverging below.

PISTILLUM: GERMEN oblongum, majusculum, bifidum; STIGMATA duo, plana, villosa, infidentia.

PISTILLUM: GERMEN oblong, rather large, bifid; STIGMATA two, flat, villous, sitting on the germen.

PERICARPIUM: CAPSULA præter morem grandis.

SEED-VESSEL: a CAPSULE larger than in the other species of this genus.

Though the present species of Saxifrage is extremely rare in this country, and altogether local, it is found in various parts of Europe, as in Sweden, Switzerland, Lapland, and Siberia, and always in bogs: according to RAY, it was first discovered on Knutsford-Moor, Cheshire, by Dr. KINGSTON; upwards of twenty years since, Mr. HOWARD, Surgeon, of Knutsford, sent me roots of it, the produce of which I still retain: and lately I received an account of it, accompanied with a drawing, from Mr. BENJAMIN HALEY, Gardener to EGERTON, Esq. Tatton-Park, near Knutsford.

It is so very different from all the European Saxifrages, that there is scarcely a possibility of its being mistaken for any of them, yet it has been confounded with the *autumnalis*, from which it obviously differs in the superior size and form of its petals, the lower half of which is beautifully spotted with orange, and towards the base of each are two very singular pointed projections (*vid. fig. 1.*) which shews a petal magnified.

Persons not conversant with botanical names, are apt to affix a different meaning to its trivial name (*Hirculus*) to what it imports; *Hirculus* signifies a little goat, and has been applied by some of the old Botanists to the *Valeriana celtica*, which the present plant resembles in its foliage.

As this plant, when properly treated, blows freely, and is very ornamental, we shall give a few directions for its culture, and those indeed may be comprised in a small compass, it being one of those plants that will live, if not egregiously neglected; all that is necessary, is to place a root of it in a pot of bog earth, and keep the pot in a pan of water, so that the earth shall be constantly moist: in the winter it will be proper to set the pot and pan under a frame, to guard against severe frost; or the plant will thrive very well in the open border (if moist, and formed chiefly of bog earth) and throw out shoots, which will take root and afford abundance of increase; the plant also may be increased by cuttings of the shoots, which will strike root if put under a close glass towards the close of the summer; if the plant be kept in a pot, it will be necessary to renew it once in two or three years.







# PULMONARIA MARITIMA. SEA LUNGWORT.

PULMONARIA. Linn. Gen. Pl. PENTANDRIA MONOGYNIA:

Cor. infundibuliformis fauce pœrvia. Cal. prismatice 5-gonus.

Raii Syn. Gen. 13. HERBÆ ASPERIFOLIÆ.

PULMONARIA *maritima* calycibus abbreviatis, foliis ovatis caule ramoso procumbente. Linn. Syst. Vegetab. ed. 14. Murr. p. 187. Sp. Pl. ed. 3. p. 195. Hudf. Fl. Angl. ed. 2. p. 81. Ligb. Scot. v. 1. p. 134. t. 7. Fl. Dan. t. 25.

CERINTHE *maritima* procumbens. Dill. Herb. Elth. t. 65.

CYNOGLOSSUM procumbens glaucophyllum maritimum nostras, floribus purpureo cœruleis, feminibus lævibus. Pluk. Alm. p. 126. t. 172. f. 3.

CYNOGLOSSUM perenne maritimum procumbens. Moris. Hist. 3. p. 450. f. 11. t. 28. f. 12.

ECHIUM *marinum*. P. B. Cat. Ang. Sibb. Sc. Ill. P. II. L. 3. p. 55. Tab. 12. Raii Syn. Ed. 3. p. 228. Sea Bugloss.

BUGLOSSUM dulce ex Insulis Lancastriæ. Lancashire Bugloss. Park. Th. p. 767. t. 766. f. 5.

RADIX perennis, lignosa, nigricans.

CAULES plures, procumbentes, pedales et ultra, teretiusculi, foliosi, superne ramosi.

FOLIA numerosa, sparsa, sessilia, obovata, acuta, basi angustata, integerrima, subtus nervosa, undulata, apicibus sæpius recurvis, superne punctis prominulis exasperata.

PEDUNCULI teretes, ad flores subincrassati, verruculosi.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis ovatis, acutis, integerrimis, carinatis, fig. 1.

COROLLA monopetala, infundibuliformis, infra medium coarctata, quasi vincula ligata fuisset; Tubus brevis, latus, longitudine calycis; Limbus quinquefidus laciniis reflexis, faux pœrvia, gibbis quinque intrusis lutescentibus, fig. 2.

STAMINA: FILAMENTA quinque, fundo corollæ inserta, subulata, convergentia, tubo corollæ paulo longiora; ANTHERÆ oblongæ, luteæ, incumbentes, fig. 3.

PISTILLUM: GERMINA quatuor; STYLUS filiformis, longitudine staminum; STIGMA simplex, fig. 4.

PERICARPIUM nullum.

SEMINA quatuor, conniventia, trigona, acuta, lateri exteriori convexa, interioribus planis, fig. 5.

ROOT perennial, woody, of a blackish colour.

STALKS numerous, procumbent, a foot or more in length, nearly round, leafy, branched above.

LEAVES numerous, placed without order, sessile, obovate, pointed, narrowed at the base, perfectly entire, ribbed on the under side, waved, the point most commonly bent back, the upper surface rough with fine prominent points.

PEDUNCLES round, a little thickened next the flowers, and somewhat warty.

CALYX: a PERIANTHIUM of five leaves, continuing, leaves ovate, pointed, perfectly entire, and keeled, fig. 1.

COROLLA monopetalous, funnel-shaped, contracted below the middle, as if it had been tied round with a ligature; Tube short, wide, the length of the calyx; Brim divided into five segments, which are bent back, the throat open, with five yellowish tubercles, fig. 2.

STAMINA: five FILAMENTS, inserted into the bottom of the corolla, converging, a little longer than the tube of the corolla; ANTHERÆ oblong, yellow, incumbent, fig. 3.

PISTILLUM: GERMINA four; STYLE filiform, the length of the stamina; STIGMA simple, fig. 4.

SEED-VESSEL none.

SEEDS four, closing together, three-cornered, pointed, the outer side convex, the two innermost flat, fig. 5.

The *Pulmonaria maritima* is found abundantly on many parts of our sea-coasts, yet not generally; like the *Crambe maritima*, it has its local attachments\*.

Its roots, which are perennial, strike deeply into the sand, or among the pebbles, and it is probable that by this means the plant may be preserved in very severe seasons; Mr. LIGHTFOOT regards it as one of the most beautiful of our British plants, such it undoubtedly is, and on that account highly deserving of culture; yet we rarely find it in the gardens of the curious, and this we attribute to its culture not being well understood; we have taken much pains to have this plant in perfection, and, having succeeded, recommend the following mode.

If your plant has been taken proper care of, it will produce abundance of seeds, most of which will be ripe by the end of August; gather them as they ripen, for if you stay till those from the last-blown flowers are fit, those from the first will have fallen out of the flower-cups; sow them either early in September or the ensuing February, in a pot of earth composed of three parts sea sand (or, in lieu thereof, common sand) and one part rotten cow dung, finely sifted; in about six weeks or two months from the February sowing these seeds will vegetate, and in the Autumn the plants will be fit to transplant into separate pots, and most of them will flower the ensuing year; snails and slugs are uncommonly fond of this plant; if you, therefore, plant it in the open border, it will in all probability be destroyed; for these animals not only devour the plant when fully green, but eat out the buds on their first appearance; so that you lose your plants without knowing the cause: having them in pots, you can guard them better from their ravages; set them with your green-house plants, and treat them as such, they will not disgrace your collection; water them over the leaves as little as may be, for the water is apt to settle on them in drops, and to leave marks which greatly disfigure them.

RAY refers to PARKINSON's figure of this plant with a query; though a very rude one, it is undoubtedly intended for it; of the several figures published since, that of DILLENIUS is certainly the best, though deficient in expressing its habit.

From the appearance of the foliage, one would not be induced to place it with the *asperifoliæ*; a magnifying glass, however, shews on many parts of it a manifest roughness; much less would we suspect that poison lurked under such an elegant form, yet the respectable testimony of Dr. BLAIR fully confirms it; the following account is taken from his *Miscellaneous Observations*, p. 55.—“I am credibly informed by a gentleman not far from hence, that in the late famine, one of his farmers being straitened for bread, taking this plant for Colewort (to which it is not unlike in colour) ordered to boil a dish of it, and gave it to his wife and children, with the servants in his family; all of them became very sick, some vomited excessively, others slept two or three days without intermission, and one or two of them died.”

\* Mentioned by RAY as growing at *Scrammerston-Mill*, between the *Salt-Pans* and *Berwick*, on the sea beach, about a mile and a half from *Berwick*; also near *Whitehaven* in *Cumberland*, and against *Bigger* in the *Isle of Walney* in *Lancashire*, plentifully, Mr. LAWSON; (near *Trefarthen* in *Anglesea*, and in abundance by the river *Uyfnï* in the way from *Dinardindle* to *Glynog* in *Carnarvonshire*, Mr. LLWYD;) in several places along the south side of the *Firth of Forth*, Dr. SIBBALD; on the sea-coast of Scotland not unfrequent, growing out of stony beaches which seem incapable of affording vegetation, as on the coast of *Fife*, near *St. Andrews*, &c. in the *Isle of Bute*, upon a sandy shore in *Arran*, at *Lach Ransa*, and at *Lamlash*, at *Isleumbkill*, and at *Glenelg* in *Invernesshire*, LIGHTFOOT Scot. at the ferry on the sea shore near *Inverness*, in great plenty, Mr. DICKSON.





*Salmonaria maritima*









*Cistus gultatus*



# CISTUS GUTTATUS. SPOTTED-FLOWERED CISTUS.

CISTUS. *Linn. Gen. Pl.* POLYANDRIA MONOGYNIA.

*Cor.* 5-petala. *Cal.* 5-phyllus: foliolis duobus minoribus. *Capsula.*

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CISTUS *guttatus* herbaceus exstipulatus, foliis oppositis lanceolatis trinerviis, racemis ebracteatis. *Linn. Syst. Vegetab. ed.* 14. *Murr.* p. 499. *Mant.* 403.

CISTUS annuus, foliis radicalibus oppositis, lanceolatis trinerviis, ramiferis ternatis linearibus. *Sauv. Monsp.* 148.

CISTUS foliis oblongo-acuminatis non stipulatis caule florali racemoso. *Guett Stamp.* 2. p. 181. *Dalib. Paris.* 158.

CISTUS flore pallido punicante macula insignito. *C. B. Pin.* 465.

TUBERARIA minor Myconi: *Lugd.* 1099.

CISTUS annuus II. *Clus. Hist.* 1. p. 77.

CISTUS annuus flore maculato. *Ger. emac.* 1281. f. 19: Spotted annual Cistus.

CISTUS annuus flore guttato. Spotted annual Cistus. *Park. Tb.* p. 661.

HELIANTHEMUM flore maculoso. *Col. Ecphr.* II. 78. t. 77.

Tota planta gratum odorem spirat, presertim flores:

RADIX annua.

CAULIS semipedalis ad pedalem, erectus, ramosus usque ad basin, teres, hirsutus, viscosus.

FOLIA opposita, connata, inferiora lanceolata, obtusiuscula, punctis prominulis scabriuscula, trinervia, hirsutula, superiora lanceolato-linearia.

FLORES racemosi, pedunculati, lutei, caduci, bracteati, et ebracteati, idque in eodem racemo; Pedunculi teretes, viscosi, ante florescentiam nutantes, pendente florescentia erecti, perfecta florescentia relexi, feminibus demissis iterum eriguntur.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis tribus majoribus ovatis, acutis, concavis, viscosis, hirsutis, glandulis atro-purpureis punctatis, perfecta florescentia convergentibus; duobus minoribus lanceolatis, ciliatis, patentibus, fig. 1.

COROLLA: PETALA quinque, obovata, lutea, macula purpurea ad basin notata, inæqualiter circumferrata, fig. 2.

STAMINA: FILAMENTA plurima; ANTHERÆ flavæ, fig. 3.

PISTILLUM: GERMEN subrotundum; STYLUS nullus; STIGMA magnum, flavum, villosum, fig. 4.

PERICARPIUM: CAPSULA trivalvis, valvis ovatis, concavis marginibus ad lentem ciliatis, fig. 5.

SEMINA plurima, minima, pallida, interno parieti valvarum per fila affixa, fig. 6.

The whole plant diffuses a pleasant odour, especially the flowers.

ROOT annual.

STALK from six inches to a foot in height, upright, branched quite to the bottom, round, slightly hairy, and viscid.

LEAVES opposite, connate, the lowermost lanceolate and somewhat blunt, the surface rough with little prominent points, three-ribbed, slightly hirsute, the uppermost lanceolato-linear.

FLOWERS growing in racemi, standing on foot-stalks, yellow, deciduous, with and without bractæ, and that on the same racemus; Peduncles round, viscous, drooping before the blossoms open, upright during their expansion, turning back again when the flowering is over, and again becoming upright on the shedding of the seed.

CALYX: a PERIANTHIUM of five leaves, continuing, the three larger leaves ovate, pointed, concave, viscous, hirsute, dotted with glands of a blackish purple colour, closing together when the flowering is over; the two smaller leaves lanceolate, edged with hairs, and spreading, fig. 1.

COROLLA: PETALS five, obovate, yellow, marked with a yellow spot at the base, the edge irregularly indented, fig. 2.

STAMINA: FILAMENTS numerous; ANTHERÆ yellow, fig. 3.

PISTILLUM: GERMEN roundish; STYLE none; STIGMA large, yellow, and villous, fig. 4.

SEED-VESSEL: a CAPSULE of three valves, the valves ovate, concave, the edges fringed when magnified, fig. 5.

SEEDS numerous, very small, of a pale colour, affixed by threads to the inside of the valves, fig. 6.

This very distinct species of Cistus, is first enumerated as a British plant in RAY's *Synopsis*, where it is described on the authority of Dr. SHERARD, as growing in the Isle of Jersey, on the west side, near Grosnez-Castle; and is further mentioned, on the authority of Mr. BREWER, in Mr. HUDSON's *Flora Anglica*, as being found in the Isle of Man; in sandy pastures on Llech ddue, near Holyhead; in France, Spain, and Italy, it occurs more frequently.

Both this Cistus and the *salicifolius* are annuals, in which respect they differ from all the other British species; from each other they are distinguished by several characters, none of which are more obvious than the disproportionate size of their respective seed-vessels. Several peculiarities attend on this species, some of which have escaped the observations of authors; the spots on the petals have been generally noticed, they contribute to render the flowers a pretty ornament; on the lower part of each of the larger leaves of the calyx one perceives numerous black glands, interspersed among the hairs, visible to the naked eye, and very conspicuous when somewhat magnified; CLUSIUS, who found this plant in Spain, describes it as covered with a sort of glutinous exudation; we have not perceived much of this, but we have found the whole plant diffuse a most delightful fragrance, more especially the flowers, and flower cups; this odoriferous matter, we apprehend, chiefly resides in the black glands we have mentioned.

In the middle of summer, the usual time of its flowering, when the mornings are long, and the solar rays powerful, the petals of this species will frequently fall off before nine o'clock; towards Autumn, we have observed them continue till noon; immediately on their falling, the three larger leaves of the calyx close together over the stamina, and pistillum, and secure them from any injury they might be liable to sustain from the early loss of their more delicate covering.

This plant is propagated without difficulty, it produces abundance of seeds, which readily grow; sow them in a pot of earth, in the Autumn; guard the seedlings, which will be small, against injuries during the Winter, and your plants will flower early the ensuing Summer; should your autumnal crop fail, sow again in the Spring, your plants will flower in the Summer, but later.

Has been observed by authors to vary with flowers without spots.







# CERASTIUM TETRANDRUM. TETRANDROUS CERASTIUM, OR MOUSE-EAR CHICKWEED.

CERASTIUM. Linn. Gen. Pl. DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. Petala 2-fida, Caps. 1-locularis apice dehiscens.

Raii Syn. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *tetrandrum* caule diffuso dichotomo, floribus plerisque tetrandris, capsula calycem vix superante.

SAGINA *cerastoides* caule diffuso dichotomo, foliis spatulatis obovatisve recurvis, pedunculis fructiferis reflexis. Smith. Trans. Linn. Soc. v. 2. p. 343.

RADIX annua, fibrosa.

CAULES plures, palmaris et ultra, diffusi, teretes, villosi, subviscidi, purpurascentes, dichotomi, ramulissimi.

FOLIA opposita, sessilia, subconnata, patenti-recurvata, integerrima, hirsutula, subtus pallidiora et minus hirsuta, inferiora ovato-lanceolata, ad basin angustiora, superiora ovata, acuta.

FLORES tetrandri et pentandri in eadem planta, plerique vero tetrandri, solitarii, e dichotomia caulis, pedunculati.

PEDUNCULI filiformes, viscidi, ad basin tumidi, post florescentiam reflexi, maturato semine suberecti.

CALYX: PERIANTHIUM 4-5 phyllum, persistens, foliolis lanceolatis, acuminatis, hirsutulis, viscidis, duobus paulo angustioribus, margine membranaceis, fig. 1.

COROLLA PETALA 4-5, calyce breviora, alba, nitida, unguibus flavescentibus, striata, bifida, lobis rectis, acutiusculis, fig. 2.

STAMINA: FILAMENTA 4-5, subulata, alba, longitudine stylorum; ANTHERÆ lutescentes, fig. 3.

PISTILLUM: GERMEN turbinatum, læve, virescens; STYLI 4-5, erecti, albi, villosuli; STIGMATA obtusa, fig. 4.

PERICARPIUM: CAPSULA oblonga, calyce paulo longior, 8-10 dentata, fig. 5, 6.

SEMINA plurima, minuta, fusca, fig. 7, 8.

ROOT annual, and fibrous.

STALKS numerous, about six inches in length, spreading on the ground, round, villous, with some viscidty, purplish, dichotomous, and very much branched.

LEAVES opposite, sessile, somewhat connate, spreading, bending back, perfectly entire, slightly hirsute, paler, and less hairy on the under side, the lowermost ovato-lanceolate, the uppermost ovate, and pointed.

FLOWERS tetrandrous and pentrandrous in the same plant, but mostly tetrandrous, solitary, from the fork of the stalk, on peduncles.

PEDUNCLES filiform, viscid, tumid at the base, when the flowering is over bent back, when the seed is ripened becoming upright.

CALYX: a PERIANTHIUM of four or five leaves, continuing, leaves lanceolate, acuminate, slightly hirsute, viscid; membranous on the edge, two of them somewhat narrower than the others, fig. 1.

COROLLA: PETALS four or five, shorter than the calyx, white, a little glossy, claws yellowish, striated, bifid, the lobes straight, a little pointed, fig. 2.

STAMINA: FILAMENTS four or five, subulate, white, the length of the styles; ANTHERÆ yellowish, fig. 3.

PISTILLUM: GERMEN top-shaped, smooth, greenish; STYLES four or five, upright, white, somewhat villous; STIGMATA blunt, fig. 4.

SEED-VESSEL: an oblong CAPSULE, a little longer than the calyx, having eight or ten teeth, fig. 5, 6.

SEEDS numerous, minute, and brown, fig. 7, 8.

As the present plant, in its general habit and structure, so obviously proclaims itself to be a *Cerastium*, we were surprised to find that the President of the Linnæan Society had regarded it as a *Sagina*, a genus to which it has very little affinity, except in the number of its petals, stamina, and styles; supposing it to be always found, as he asserts it is to be, with *floribus quadrifidis*, or, as would have been perhaps more scientifically expressed, *floribus tetrapetalis*; but admitting the fact to be so, which it is not in reality, a difference merely in the number of its parts surely would not make it the less a *Cerastium*; if it would, the *semidecandrum* and *pumilum*, already figured in this work, would not be such, as they have only half their proper number of stamina: that the specimens which Dr. SMITH examined were all tetrandrous we readily believe, and have no doubt but we shall obtain equal credit when we assert, that in the living plant from whence our drawing was made, nearly the fourth part of the flowers were pentandrous; in the form and structure of the seed-vessel, a part which forms the striking character of a *Cerastium*, vid. GÆRTNER, our plant is not deficient, and the seeds (when magnified) correspond in form with all the others of the genus, vid. fig. 8.

The flowers of this plant expand, as the influence of the sun is more or less powerful, without any regard to the particular time of the day; after they have been prevented from opening by a wet cloudy day, we have seen them expand partially on the sun's shining on them so late as seven in the evening: its peduncles, as in *Alpine*, *Holoflea*, and some others of the *Cerastiums*, bend back when the flowering is over, and become erect as the seed ripens.

Besides the difference in the number of its stamina, this plant differs from *semidecandrum* and *pumilum*, in being much larger, and more procumbent; in the latter character it differs wholly from *viscosum*, to which it has some affinity, in the breadth of its foliage; the mouth of the capsule opens usually with eight teeth, the flower, which has five petals, is found with ten; those teeth, when magnified, appear somewhat truncated, and their edges turn back, vid. fig. 6.

Mr. DICKSON, the fortunate discoverer of *Cerastiums*, found this plant growing abundantly on the Island of Inch-Keith in the Firth of Forth, and on the sea-shore below Prestou-Pans; it is not likely that this species, or the *pumilum*, should be confined within the narrow limits of growth which we at present assign them; as the several species are more minutely attended to, they will (we may venture to predict) be found abundantly elsewhere.

It flowers in May and June, and grows readily from seeds, which should be sown in Autumn.





*Cerastium tetrandrum*









*Stachys arvensis* L.

*Poa pruriens*



# POA PROCUMBENS. PROCUMBENT MEADOW-GRASS.

POA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis multiflorus. Spiculæ ovatæ, valvis margine scariosis acutiusculis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ, FLORE IMPERFECTO CULMIFERÆ.

POA procumbens culmis inflexo-procumbentibus, panicula secunda rigida; spiculis sublinearibus, subquinquefloris; flosculis obtusis basi pilosis.

RADIX perennis, fibrosa.

CULMI plures, palmares, semipedales et ultra, bi, trinodes, plerumque procumbentes, foliosi, læves, superne compressi.

FOLIA glauca, brevia, lineas duas lata, lineata, ad lentem punctis diaphanis subasperis confertis utrinque adpersa, margine minutissime serrulata; Ligula brevis, amplexicaulis, alba, acutiuscula; Vagina foliorum intus nitida, extus superficies eadem ut in foliis.

FLORES paniculati.

PANICULA subbiuncialis, rigida, subovata, deorsum subinde flexa, subsecunda, ramosa, ramis binatis inæqualibus, extenore majore, spicula simplici in ramis inferioribus plerumque medio inter ramos posita, in speciminibus minus luxuriantibus spicula locum ramuli obtinet.

PEDUNCULI communes, teretes, nudi, flexuosi, substantia glandulosa ad basin superne notata.

RACHIS teres, lævis, interne bifurca.

SPICULÆ in ramis majoribus sex circiter, in minoribus quatuor, sessiles, subquinquefloræ, sublineares, compresso-teretiufculæ, æquidistantes.

FLOSCULI obtusi, ad basin pilosi.

CALYX: Gluma bivalvis, valvulis inæqualibus, viridibus, albo marginatis, obtusiufculis, fig. 1.

COROLLA: Gluma bivalvis, valvis subæqualibus, exteriore majore quinque nervi, interiore angustiore binervi, nervis ciliatis, fig. 2.

STAMINA: FILAMENTA tria capillaria; ANTHERÆ oblongæ, flavæ, fig. 3.

PISTILLUM: GERMEN obovatum, pallide virens; STYLI duo, patentes ad basin usque ramosi, fig. 5.

NECTARIUM: Glumulae duæ, diaphanæ, basi tumida carnosæ, germine paulo longiores, fig. 4.

SEMEN oblongum, læve, glumis inclusum, fig. 6.

ROOT perennial, and fibrous.

STEMS many, from four to six inches or more in length, having two or three joints, for the most part procumbent, leafy, smooth, flattened towards the panicle.

LEAVES glaucous, short, two lines broad, scored, when viewed with a magnifier appearing to be thickly covered with roughish transparent dots, the edge very minutely sawed; Membrane short, embracing the stalk, white, somewhat pointed; Sheath of the leaves glossy on the inside, the surface on the outside the same as that of the leaves.

FLOWERS in a panicle.

PANICLE about two inches long, rigid, somewhat ovate, and now and then bent a little backwards, turning chiefly to one side, branched, the branches growing in pairs, unequal, the outer one largest, in the lower branches a single spicula is most commonly placed in the middle betwixt them, in impoverished specimens a spicula often holds the place of a branch.

PEDUNCLES: the common peduncles round, naked, crossed, marked at the base on the upper side with a glandular kind of substance.

RACHIS round, smooth, with two grooves on the inside.

SPICULÆ in the larger branches about six in number, in the smaller ones four, sessile, containing about five flowers, somewhat linear, roundish, slightly flattened, placed at equal distances from each other.

FLORETS obtuse, hairy at the base.

CALYX: a Glume of two valves, the valves unequal, green, edged with white, and somewhat blunt, fig. 1.

COROLLA: a Glume of two valves, the valves somewhat equal, the outer one largest and five-ribbed, the inner one narrowest and two-ribbed, the ribs edged with hairs, fig. 2.

STAMINA: three capillary FILAMENTS; ANTHERÆ oblong, and yellow, fig. 3.

PISTILLUM: GERMEN obovate, of a pale green colour; STYLES two, spreading and ramified quite to the base, fig. 5.

NECTARY: two small transparent Glumes, tumid and fleshy at the base, a little longer than the germen, fig. 4.

SEED oblong, smooth, enclosed in the glumes, fig. 6.

In the Autumn of 1793, having occasion to be at Bristol, I spent great part of a day in examining the plants of the famous St. Vincents Rock, adjoining Clifton-Wells; and at the foot of the rock, on the edge of the river Severn, I observed a tuft of grass, with a few panicles of ripe seed on it, assuming a different appearance to any grass I had been accustomed to see: I sought for more of it about the same spot, but without success; flattering myself that it might turn out to be a new species, I took up the only root there was, and gathered the seeds, planting the one, and sowing the other, in my garden at Brompton; the next season it flowered with me, and gave me an opportunity of discovering that it was a species of Poa, perfectly distinct from all our others.

In its general habit it comes near to *Poa annua*, it bears an affinity also to *Poa rigida*; but from both those, as well as from all our other Poas, it is distinguished by many curious and interesting particulars.

One of the most striking characters of this grass is to have its stalks for the most part procumbent; but this procumbence, if we may be allowed the expression, does not appear to originate in the usual way, from the weakness of the stalk, but from its being bent downward at a joint near its base: as every stem is not thus acted on, some of them are frequently found nearly upright: the foliage of this plant is of a glaucous hue, and, if examined with a magnifier, is found to be covered with numerous rough particles of a silvery hue; the panicle has a greater degree of rigidity than that of *Poa annua*, the spiculæ are much longer, less flat, and more regularly distant from each other, and each floret is ciliated at its base; such are the most obvious differences; many others may be discovered from an attention to the description.

Not satisfied with having found a single specimen of this plant, we delayed publishing this account, hoping that it might be found more abundantly elsewhere; in the beginning of August an opportunity of making this discovery fortunately presented itself.

Sir THOMAS FRANKLAND, an early and warm encourager of the *Flora Londinensis*, which in many points has been improved by his friendly and judicious observations, sent me, from Clifton (where he then was on a visit) some seeds and specimens of plants gathered near that spot; I immediately wrote to him, and enclosing a specimen of my Poa, requested him to search for it; on the 7th of the same month I received a letter from him, containing specimens of the same grass, with the following desirable information: "I had fortunately noticed the grass you enclosed in your letter, which grows in some plenty in the inundated parts of the waste ground west of the wet dock, below Clifton; it seemed most like *Poa rigida*, its habit was new to me; and I supposed it a variety of that grass." In a letter afterwards, Sir THOMAS informs me, that he had found the same grass abundantly on the Pier at Scarborough; and we have lately been informed, that it has been found on the Essex Coast.

Culture produces little alteration in its appearance; it grows readily from seed, and flowers during most of the Summer: from the same root, which is clearly perennial, we have, as in *Poa annua*, young shoots and ripe seeds.







# AGROSTIS SETACEA. SHEEP'S FESCUE-LEAVED AGROSTIS.

AGROSTIS. *Linn. Gen. Pl.* TRIANDRIA DIGYNIA.

*Cal.* 2-valvis, 1-florus, corolla paulo minor. *Stigmata* longitudinaliter hispida.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AGROSTIS *setacea* foliis setaceis, culmo erecto.

AGROSTIS *canina* v.  $\gamma$  foliis setaceis rigidis glaucis, culmo erecto. *Huds. Fl. Angl. ed.* 2. p. 31.

AVENA *monantha*, paniculata, foliis setaceis, glumâ calycina exasperata; arista flore duplo longiore. *Hall. Hist. n.* 1478.

GRAMEN parvum paniculatum alpinum panicula spadiceâ aristatum. *Scheuchz. Agrost. p.* 140. 1. *Prod. p.* 22. t. iv.

AGROSTIS *alpina*. *Diagn.* unum petalum truncatum aut bifidum, e basi promit aristam basi recurvatum. *Scop. Fl. Carn. ed.* 2. p. 61.

RADIX perennis, fibrosa.

FOLIA radicalia numerosa, fasciculata, glauca, rigida, setacea, teretiuscula, hinc sulcata, basi vaginis inclusa, ligula alba, erecta, instructa, caulina pauca, subulata, foliis radicalibus paulo latiora, erecta, sesunciam longa.

CULMI plures, spithamæi, pedales et ultra, suberecti, trinodes, scabriusculi, præsertim superne.

PANICULA bi-triuncialis, subcoarctata, tandem spiciformis.

CALYX : GLUMA bivalvis, valvis lanceolatis, acuminatis, subæqualibus, carina ad lentem scabriuscula, purpurascentibus, *fig.* 1.

COROLLA bivalvis, glumis calycinis brevior, valvula exteriore majore, longitudine fere calycis, nervosa, nervis duobus plerumque longioribus, hinc apice bifida, *fig.* 2; aristata, arista e basi valvulæ, et ejusdem fere longitudinis, primo recta, *fig.* 3; demum geniculata, valvula interior, minima, *fig.* 4; planiuscula, diaphana, vix germine longior, basi utrinque fasciculo minimo pilorum instructa, *fig.* 5.

STAMINA : FILAMENTA tria, capillaria; ANTHERÆ bifurcæ, purpureæ, *fig.* 7.

PISTILLUM : GERMEN ovatum; STYLI duo, patentés, ad basin usque plumosi, *fig.* 8.

NECTARIUM : GLUMULÆ duo, lanceolatæ, acuminatæ, *fig.* 6.

ROOT perennial, and fibrous.

LEAVES, those next the root numerous; growing in bundles, glaucous, somewhat rigid, brittle-shaped, roundish, grooved on one side, at their base enclosed in sheaths, furnished with a white erect membrane, those of the stalk few, subulate, a little broader than the radical leaves, upright, an inch and a half in length.

STEMS several, from a span to a foot or more in length, nearly upright, having usually three knots, roughish, especially on the upper part.

PANICLE two or three inches long, somewhat closed, finally spike-like.

CALYX : a GLUME of two valves, the valves lanceolate, long-pointed, nearly equal, the keel rough when magnified, purplish, *fig.* 1.

COROLLA of two valves, shorter than the glumes of the calyx, the outer valve largest, nearly the length of the calyx, ribbed, two of the ribs usually longer than the rest, which gives to the tip a bifid appearance, *fig.* 2; awned, awn springing from near the base of the valve, and nearly of the same length, at first straight, *fig.* 3; finally jointed, the inner valve very minute, *fig.* 4; scarcely longer than the germen, furnished at its base on each side with a very minute tuft of hairs, *fig.* 5.

STAMINA : three FILAMENTS, capillary; ANTHERÆ purple, *fig.* 7.

PISTILLUM : GERMEN ovate; STYLES two, spreading, feathery quite to the base, *fig.* 8.

NECTARY : two minute GLUMES, lanceolate, long-pointed, *fig.* 6.

In the several catalogues of plants published by me at different periods, I have long since given to this very distinct species of *Agrostis* the name of *setacea*, or *Sheep's fescue-leaved*, the foliage being much finer than that of any other of our British species, and considerably resembling that of the *Sheep's Fescue* grass; regarding this name as more expressive than that of *alpina*, which was perhaps previously given it by *Scopoli*, I am not inclined to alter it, more especially as *Gmelin* has also an *alpina*, which, if we pay any regard to his figure of reference, is not our plant.

The first information I received of this grass was from my Gardener, *Robert Squibb*, who sent me up some tufts of it from *Piddletown-Heath*, *Devonshire*, where his relations lived; I have since found it to be one of the most common plants of that county, and *Cornwall*, there being scarcely a heath in either on which it does not abound; I have found it also plentifully on *Bagshot-Heath*, but not in the neighbourhood of *London*; *Lord Gainsborough* observed it near *Lymington*, *Hampshire*.

It flowers in July and ripens its seeds in August.

Readily as it grows in its wild state, I have not been able to keep it alive in my garden without planting it in bog earth; and bestowing unusual care on it.

The peculiarity of its place of growth, the fineness of its glaucous leaves, the closeness of its panicle, the length of its arista, so closely embraced is one of the valves of the calyx as to appear at first as if proceeding from it, which we have never observed to be wanting, joined to other characters noticed in the description, sufficiently point it out to the most common observer.

As an agricultural plant, it does not appear to have much to recommend it; where it abounds, it must constitute much of the sheep feed.













*Lobelia urens*

*S. Edwards del. & J. Sargent sculp.*



# LOBELIA URENS. ACRID LOBELIA.

LOBELIA. *Linn. Gen. Pl.* SYNGENESIA MONOGAMIA.

*Cal.* 5-fidus. *Corolla* 1-petala, irregularis. *Capf.* infera, 2-f. 3-locularis.

LOBELIA *urens* caule erectiusculo foliis inferioribus subrotundis crenatis, superioribus lanceolatis ferratis, floribus racemosis. *Linn. Sp. Pl. ed. 3. p. 1321. Mant. p. 482.*

LOBELIA caule erecto, foliis lanceolatis subdentatis, spica laxa longa terminali. *Loefl. it. 167.*

LOBELIA foliis oblongo-ovatis, floribus laxa spicatis. *Guett. Stamp. 1. p. 35. Dalib. Paris. 268.*

RAPUNCULUS galeatus blesensis f. soloniensis flore violaceo minore. *Morif. Hist. 2. p. 407. f. 5. t. 5. f. 56.*

RAPUNTIIUM *urens* soloniense. *Morif. bleff. 300. Bocc. fic. 20. t. 11. var. 11. 3. Rati Hist. 746. Monnier Obs. 131.*

DRABA flore cæruleo galeato. *Bauh. Prodr. 53. Pin. 110.*

Planta, lactescens, lævis, acris.

The plant milky, smooth, and acrid.

RADIX perennis, fibrosa.

ROOT perennial, fibrous.

CAULIS pedalis ad bipedalem, erectus, ramosus, angulosus.

STALK from one to two feet high, upright, branched, angular.

RAMI adscendentes, tetragoni.

BRANCHES ascending, four-cornered.

FOLIA alterna, sessilia, subdecurrentia, inferiora oblonga, obtusa, basi angustata, varie dentata, apice sæpe trifida, superiora lanceolata, denticulata.

LEAVES alternate, sessile, somewhat decurrent, the lowermost oblong, obtuse, narrowed at the base, variously indented, often trifid at the point, the uppermost lanceolate, finely toothed.

FLORIS violacei, inodori, numerosi, secundi, racemosi.

FLOWER violet-coloured, scentless, numerous, growing to one side in racemi.

RACEMI semipedales, erecti, bracteati.

RACEMI about six inches in length, upright, furnished with bractæ.

BRACTEÆ inferiores lanceolatæ, denticulatæ, apice tricornes, superioris subulatæ, omnibus ad lentem scabriusculis.

BRACTEÆ, the lowermost lanceolate, finely toothed, terminating at top in three little horns, the uppermost awl-shaped, all of them appearing rough if magnified.

FLORES plerumque solitarii, pedunculati, pedunculis brevibus, stipula subulata rubro terminata ad basin utrinque.

FLOWERS usually single, on peduncles, peduncles short, furnished on each side at the base with an awl-shaped stipula tipped with red.

CALYX: PERIANTHIUM superum, persistens, quinquepartitum, laciniis subulatis, patentibus, suprema cæteris paulo longiore, ad lentem hirsutulis, fig. 1.

CALYX: a PERIANTHIUM placed above the germen, continuing, divided into five segments which are subulate and spreading, the uppermost a little longer than the others, slightly hirsute if magnified, fig. 1.

COROLLA monopetala, ad lentem villosula, tubulosa, tubus calyce duplo longior, superne longitudinaliter divisus; Limbus quinquepartitus, bilabiatus; labium inferius tripartitum, laciniis ovato-lanceolatis, acuminatis, dependens, tuberculis duobus albis in fauce notatis, superius bipartitum, laciniis angustioribus, erectis, remotis, paululum recurvis, fig. 2.

COROLLA: monopetalous, slightly villous if magnified, tubular, tube twice the length of the calyx, longitudinally divided above; Limb deeply divided into five segments, two-lipped; under lip tripartite, segments ovato-lanceolate, long-pointed, and depending, at the entrance of the throat marked with two white tubercles, upper lip bipartite, segments narrower, upright, remote from each other, and somewhat bent back, fig. 2.

STAMINA: FILAMENTA quinque, alba, superne connata; ANTHERÆ e fulco-nigricantes, pilis ad margines canescentibus, fig. 3.

STAMINA: five FILAMENTS, of a white colour, united together above; ANTHERÆ of a brownish black colour, with grey hairs on their edges, fig. 3.

PISTILLUM: GERMEN inferum, fulcatum; STYLUS filiformis, longitudine staminum, superne paulo crassior; STIGMA obtusum, villosum, fig. 4.

PISTILLUM: GERMEN below the calyx, grooved; STYLE filiform, the length of the stamina, a little thickened above; STIGMA obtuse and villous, fig. 4.

The Lobelia urens is one of our native plants which it has fallen to the lot of very few English Botanists to see, either wild or cultivated, its place of growth being altogether local and confined to a part of the island; in France and Spain it is more common: for more than twenty years we were anxiously desirous of obtaining this plant; once we had the mortification of travelling in a stage coach close by the spot where it was said to grow: our wishes were at length gratified by the kindness of the Right Hon. Lord WEBB SEYMOUR, who two years since sent us up roots and specimens, accompanied with a letter, which, as it describes minutely its place of growth and other circumstances, we have taken the liberty to add to our account of this plant.

" Bradley-House,



" Bradley-House, October 18, 1796.

" S I R,

" Before the arrival of this, you will probably have received a box containing some specimens of the *Lobelia*  
" *urens*, which I sent from Axminster yesterday morning by the coach. I was disappointed in not finding a  
" single plant in flower, having found it last year on the 10th of October in the highest perfection; this  
" difference can only be attributed to the forwardness of the last spring, and the backwardness of the preceding  
" one. It grows in a poor gravelly soil, on the slope of a heath, called Kilminster-Hill, from the parish in  
" which it is situated, and about two miles from Axminster. It is here confined to a spot, not exceeding half  
" an acre, close to the road, and about fifty yards from the entrance of the heath, on the right-hand side in  
" going from Axminster to Honiton. I have been thus particular in the description of the place, as I searched  
" for it in several other parts of the heath (which is extensive) without finding a single plant. It is surrounded  
" by *Ulex europæus*, *Erica vulgaris*, *cinerea*, and *tetralix*, *Betonica officinalis*, and *Serratula tinctoria*, all in a  
" dwarf state, and thrives best when a few inches of the stem are closely covered by other plants.

" I remain,

S I R,

" Your obedient humble Servant,

" WEBB SEYMOUR."

The roots sent, being planted in pots, grew readily, and flowered the ensuing autumn; from the least luxuriant of those our drawing was made: it will be found more branched than the plants usually are on Kilminster-Hill; but not more so, we presume (if we may judge from figures) than the plant is when found wild in other places.

The name of *urens* has been given to this species from its hot and burning taste, not from any stinging quality; it certainly is a very acrimonious plant: the leaves soon after being chewed, excite considerable heat in the mouth, attended sometimes with sickness: Mr. SYDENHAM EDWARDS, my draughtsman, to whose ingenuity I am under great obligations, and who has acquitted himself so honourably and meritoriously towards me, having handled a branch of this plant broken off from the main stem, and afterwards rubbed his eyes slightly, had a violent pain and temporary inflammation excited in them thereby; which however soon went off, on washing them with cold water.

As a rare plant, and indeed as an ornamental one, this species is deserving of culture; it may be raised without any great difficulty from seeds, or increased by parting its roots, which are perennial, not biennial or annual, as authors have made them.









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